AMERICAN GAS ASSOCIATION MONTHLY

OCTOBER · 1936

All Set for the Convention

•

Trends in Gas Appliance Design

E. E. VANDAVEER

•

Gas Furnaces for Heat Treating

J. R. McCALEY

•

World Power Conference Features

1936
Natural Gas Department
Proceedings

188 pages
cloth bound
illustrated

PAPERS, REPORTS
ADDRESSES AND DISCUSSIONS
PRESENTED
AT ANNUAL MEETING
DALLAS, TEXAS
MAY 5-8, 1936

Price $2.00 to members
$4.00 to non-members
LIMITED EDITION

Read the Proceedings of the Natural Gas Department and find out why the Convention was reported to have "reflected the natural gas industry's progress during the last year." Latest developments in the drilling and completing of gas wells, new designs in refrigeration, selling improved house heating equipment, and recent investigations into the gas hydrates problem are just a few of the subjects concerning various phases of the industry that are treated this year. Written by those who have specialized in their own topics, the articles are particularly analytical and informing. Conveniently broken up into various headings as production, utilization, sales promotion, transmission, etc., the Proceedings is a handy guide to a discussion of any problem you may have. The engineer, the salesman, the accountant—in short, all gas men—will find such an attractive and amply illustrated book a valuable aid to their profession. Prepared topics and informal discussions "on the spot," brought to you under one cover, result in an up-to-date and learned story of natural gas progress.

Call a meeting of experts by ordering your copy now.

AMERICAN GAS ASSOCIATION
420 Lexington Avenue
NEW YORK, N. Y.

AMERICAN GAS ASSOCIATION MONTHLY

Contents for October 1936

VOL. 18 No. 9

All Set for the Convention 335

World Power Conference Attracts Gas Men from Many Countries 341

Visiting Delegates Inspect Association's Laboratories 342

Gas Shown at Exposition 344

Arthur Hewitt Is Dead 345

Trends in Gas Appliance Design 346
F. E. VANDAVEER

The Obligation of Industry to a Fire Prevention Campaign 349
N. E. BERTL

One Billion and a Half Cubic Feet of Gas Added during Refrigeration Campaign 351
F. E. SELLMAN

Attractive Animated Displays Carry Story of Modern Gas Service 352

Gas Appliances for Small Kitchens 354
B. K. SLAUGHTER

Seven Pacific Coast Companies Join Mystery Chef Series 356

Gas Furnaces Qualify for Close Control of Heat Treating 358
J. B. NEALEY

Convention Calendar 361

Analysis of Customers' Paying Habits 362
GEORGE B. WEBBER

Prize Winners Announced in Second National Gas Range Sales Contest 364

A. G. A. To Exhibit at Three National Business Shows 366

Going Ahead with Industrial Gas 367

Thomas Calorimeters—Their Maintenance and Operation 368
MARK F. KLEEBERG

Personnel Service 372

Published monthly by the American Gas Association. Publication Office, American Building, Brattleboro, Vt. Editorial Offices, 420 Lexington Avenue, New York, N. Y. Address all communications to 420 Lexington Avenue, New York, N. Y. The Association does not hold itself responsible for statements and opinions contained in papers and discussions appearing herein. Entered as Second Class Matter at the Post Office at Brattleboro, Vermont, February 10th, 1922, under the Act of March 3, 1879.

SUBSCRIPTION RATE : $3.00 A YEAR

CRUST SO CRISP AND LIGHT
YOU COULD SHATTER IT
WITH A feather
That's partly due to the recipe (page 7 in the free recipe book offered below)—but it's also due to the fact that it was baked in the ventilated oven of a modern gas range. These ovens are insulated to keep heat in—and ventilated to permit excess moisture to escape. And Automatic Heat Control makes baking directions easier to follow, prevents failures.

Pastry Triumphs Every Time

with a modern heat-controlled gas range!

IT'S a wonderful feeling—to be *certain* everything you bake is going to turn out perfectly! Even the most experienced cooks are astonished at the results modern automatic gas cooking makes possible.

Lighter, flakier pie crusts. Feathery angel food cakes. Souffles that rise to new heights of airy perfection!

The secret is a simple one. These modern gas ranges combine automatic control with the higher speed and exact shading of temperature only gas can give.

Stop at the showrooms of your Gas Company or dealer and see these wonder-working new gas ranges for yourself. Note the automatic lighting. The dial that controls oven temperatures. The way ovens are insulated to keep heat in—and ventilated to permit foods to bake without "steaming." The new high-speed grills that broil in practically half the time—keeping more juice and flavor in the meat.

Remember — when you cook with gas you have hundreds of different shades of heat at your command. You have *instant* heat, saving hours in the kitchen. You have *economical* heat, saving money every day.

• • •

FREE RECIPE BOOK! *101 speed recipes and menus made possible by modern CONTROLLED COOKING with GAS. "Time-table directions" for every dish. New ways of saving money in cooking. Write the American Gas Association, Dept. M2, 420 Lexington Avenue, New York City, for your copy.*

Gas cooks foods faster, better, cheaper—gives silent, simplified refrigeration—provides unlimited hot water—and clean, effortless heat for your home.

There's nothing like

GAS

for

BROILING

Gas gives you the intense heat needed to brown meats so fast that loss of juices is prevented. Full flavor is saved.

ROASTING

Gas gives you the oven ventilation which produces crisp, juicy roasts. Excess moisture is allowed to escape, preventing that flat "steamed" flavor.

BAKING

Successful baking results require an unlimited range of oven temperatures evenly distributed. That's why Gas assures light, evenly browned cakes, pies and breads.

FRYING

Perfect, speedy frying requires instant high heat—even spread of heat under the skillet—numberless heat variations. Gas gives them all!

BOILING

Faster! Gas brings foods to a boil in ¾ or less the time of other fuels. Because it is more flexible, it gives you the exact degrees of heat you need.

MODERNIZE YOUR HOME WITH GAS

Second of a series of advertisements appearing currently in women's magazines as a part of the national cooperative campaign

AMERICAN GAS
ASSOCIATION
MONTHLY

James M. Beall, Editor

All Set for the Convention

AN epic year in the gas industry is drawing to a close. An epic convention is about to begin. It is the eighteenth annual meeting of the American Gas Association. The place is Atlantic City, N. J., and the dates, mark them well, are October 26-30. In between those dates will be packed five days of events calculated to stimulate and impress even the least resourceful and unimaginative of individuals. An aroused industry will be speaking its collective mind, reaffirming its faith in its destiny, reviewing a year of extraordinary achievement, projecting its plans for even better years to come.

A great exhibition of gas appliances and equipment will be on view to the fortunate ones who are present. An exhibition which will prove conclusively not only the technical excellence but the beauty of design and economy of operation typical of modern gas equipment—tools with which any industry would be proud to work. A meeting of minds will take place over scores of vital phases of the industry's operations. Sectional meetings will take care of local and specialized problems, general sessions will cover broader subjects of national importance.

President Denning

The annual address of the president of the Association, L. B. Denning, head of the Lone Star Gas Company, will set the keynote of the meeting. The forcefulness as a public speaker and happy delivery of President Denning are well known and add greatly to the interest felt in this event. He will speak at the opening general session, Tuesday morning.

It has always been a feature of our conventions to have messages from the gas fraternity abroad. The representative of the industry in Great Britain this year will be Michael Milne-Watson, of the Gas Light and Coke Company of London. Mr. Milne-Watson, who is temporarily with The Brooklyn Union Gas Company, is a son of Sir David Milne-Watson, Governor of that great company, the largest gas undertaking in the world, whose address by trans-atlantic telephone, delivered over loud speakers in the Atlantic City convention ballroom in 1929, was one of the pioneer events of its kind and one of the features of that year's meeting.

Known on two continents for his intimate knowledge and intensive studies of sales methods, Davis M. DeBard, vice-president of Stone and Webster Service Corporation, will boil down his experiences and observations for the benefit of the American gas industry at the Atlantic City convention. He knows well how to do it and, as sales of gas are the high light of the industry, his address should be outstanding.

Everybody will want to know about the inauguration and progress of national advertising for the gas industry and other methods of advising the public of the advantages of gas service. The logical man for this job is naturally Major T. J. Strickler, chairman of the Committee to Conduct National Advertising, who of all men knows the story and knows how to tell it. Nothing in many years has so stimulated the activities and enthusiasm of the industry as this national advertising program. Major Strickler will speak before one of the general sessions.

In addition to his address before a general session, Major Strickler will preside at a luncheon forum to be held at the Ambassador Hotel on Thursday noon for the purpose of discussing the advertising program. Henry Obermeyer, chairman of the Publicity and Advertising Committee, and D. D. Parry, president of the Public Utilities Advertising

Association, will contribute short talks on subjects of special interest to gas men employed in sales and advertising departments.

The vital subject of research will be discussed by Clifford E. Paige, president of The Brooklyn Union Gas Company and former president of the Association. Mr. Paige is making a special study of the needs of the industry in this respect and his remarks will be of interest to the entire industry.

The natural gas industry forms the subject of an address to be made at one of the general sessions by Dr. John W. Finch, director of the Bureau of Mines. In view of the growing size and importance of the natural gas industry and the cooperative activities carried on by the Bureau and the Association, the talk of Dr. Finch will be of great interest and significance.

Power Conference Topic

No doubt many members of the industry read with great interest press accounts of the recent World Power Conference in Washington and especially certain of its features. That conference will be described at a general session by Walter C. Beckjord, vice-president and general manager and chairman of the Executive Committee of the Columbia Gas and Electric Corporation. Mr. Beckjord presided over the all-gas meeting at the Conference and knows whereof he speaks.

This year, for the first time, an opportunity will be provided at the convention for executives concerned with personnel work to meet and discuss their problems. Under the auspices of the Committee on Personnel Practices, a luncheon conference will be held at The Shelburne on Tuesday. Eric A. Nicol, chairman of the committee and manager of personnel of The Philadelphia Gas Works Company, will preside. L. A. Appleby, director of training of the Socony Vacuum Corporation, will be the guest speaker. T. H. A. Tiedemann, president, Industrial Relations Counsellors, New York, has been invited to address the Wednesday morning general session on this subject.

Awards of the American Gas Association Meritorious Service Medal, the Beal Medal, the Charles A. Munroe Award and other forms of recognition of outstanding achievements will be a feature of the general sessions.

The annual meeting of the Natural Gas Department will take place Monday at the Ambassador Hotel. An important meeting of the Main Technical and Research Committee at which H. C. Cooper, chairman, will preside will occupy the morning session. This committee has concluded various major projects during the year and will review its activities prior to reporting at the afternoon session. This meeting is open to all members of the Natural Gas Department.

Following the opening remarks of the chairman, William Moeller, Jr., the following three papers will be presented and discussed at the afternoon session: "Polymerization of Natural Gas" by Dr. J. S. Carey, M. W. Kellogg Company, Jersey City, N. J.; "The Trend of Natural Gas in Industry" by Frank H. Adams, general manager, Surface Combustion Corporation, Toledo, Ohio; and "Improving Capacity of Large Transmission Pipeline by Internal Cleaning with Pipeline Scraper" by F. J. Trelease, Ford, Bacon and Davis, Inc., New York, N. Y.

The annual dinner meeting of the Executive, Managing and Advisory Committees of the Natural Gas Department will be held at 6:30 Monday evening.

Cheered on by the fact that they retained the connected load during the depression and the industrial and commercial gas sales are steadily increasing, the members of the Industrial Gas Section are planning three meetings and a luncheon that will be devoted to nearly every phase of sales work in specialized fields. Both natural gas and manufactured gas sales problems will be covered. Particular emphasis will be laid on the commercial gas sales methods in view of the renewed enthusiasm for this growing branch of our business.

The Industrial Gas Club Luncheon will be held Wednesday in the Ocean Lounge of the Ambassador Hotel and will be addressed by Frank J. Smith, president, Houston Natural Gas Company. All gas men are invited.

The Industrial Gas Section has also arranged for a special paper to be presented Monday at the Natural Gas Department meeting on the subject "Why Industry Will Turn to Natural Gas at a Greater Rate than Industrial Production Increases." This paper is expected to be of unusual interest.

Sales Slants

Regular sessions of the Commercial Section will be held on Tuesday and Thursday afternoons. In addition, a short session will be held Wednesday afternoon, at which time first prize winners in each of the three national sales contests sponsored by the section will receive their company awards for leading the field in the sale of gas ranges, refrigerators and water heaters.

A new feature of the Commercial Section meeting will be the first session on Tuesday, planned especially for gas company executives in charge of company development and sales programs. At that time a group of outstanding executives will discuss: Long Term Financing Plans and Re-

Convention Entertainment

THE Entertainment Committee has arranged for a very unusual program at this year's Convention for the entertainment of delegates and guests. The program will include a stag affair for Monday evening with artists and numbers, including:

NBC Troubadours
A Welcome Broadcast to Guests
Bonnie Laddies
Original Nickelodeon
Community Singing led by Bonnie Laddies
Southernaires
Ward Wilson,
Master of Ceremonies

Tuesday evening there will be a Presidents' Reception followed by a dance with music by Rosario Bourdon and his orchestra.

On Wednesday evening there will be a concert featuring Margaret Speaks, radio star and concert artist; Ross Graham, featured artist on the Maxwell House Show Boat and guest artist on other programs; and The Modern Choir, presented by Rapport and Cote, Myron Rapport, arranger, at the piano and Emil Cote, Director; Rosario Bourdon and his Concert orchestra. Dancing will follow the concert.

The performances are under the personal supervision of Frances Rockefeller King of NBC Private Entertainment Department.

Wednesday afternoon the Convention will entertain the ladies at a Bridge-Tea.

NOTED ARTISTS TO APPEAR AT CONVENTION

Ward Wilson

The Southernaires

Margaret Speaks

The Modern Choir

Ross Graham

Bonnie Laddies

Rosario Bourdon

Group of famous radio personalities who will provide entertainment at the Association's eighteenth annual meeting. These entertainers are among the most popular on the air

sults, Effect of Promotional Rates on New Business, Local Tie-Ins with the National Advertising Program, and Appliance Performance Characteristics Demanded by Present-Day Competition.

Home service attractions at the convention include a breakfast meeting on Wednesday and an afternoon session on Tuesday. The breakfast meeting program consists of a group of two-minute talks by home service directors describing their many activities. Two interesting subjects at this session are: How Home Service Meets Competition and Analysis of Home Calls. A timely discussion on Time and Temperature by Jane Roberts, is a high light of the Tuesday meeting. This topic is expected to provoke a lively discussion on divergent viewpoints. This session also includes a talk by Eloise Davison, Herald Tribune Institute, New York, and a symposium on What's New in Home Service.

Accounting Sessions

Great interest in the Accounting Section centers on the Luncheon Conferences which have proved so successful at previous conventions. The following five subjects will be discussed at five separate luncheon meetings on Wednesday: Credits and Collections, Customer Accounting, Customer Relations, General Accounting and Office Management. The regular sessions of the accountants, on Tuesday and Thursday afternoons, as will be seen from the accompanying program, cover many topics of national interest as well as routine accounting matters.

A subject appearing for the first time on the Technical Section program is "Radio Communication to Mobile Units for Normal and Emergency Dispatching in the Operation of Public Utilities" by K. Kendall Berlyn, Northern Indiana Power Company, Kokomo, Ind. Two sessions, Tuesday and Thursday afternoons, have been arranged for the engineers and many important problems will be discussed. Among the subjects on the program are: Gas Economics, Pipe Coating Research, Water Conditioning as Applied to Gas Plants, The Purification of Commercial Gases at Elevated Temperatures, The Economics of Oil Refining by the Gas Industry, The Syracuse Power Mixer, and Method of Determining the Relation of Generator Fuel, Oil and Tar in Carburetted Water Gas. The Chemical, Gas Production and Distribution Committees will present valuable reports covering activities in their respective fields.

The annual meeting of the Association of Gas Appliance and Equipment Manufacturers will take place Sunday, October 25, at 4:00 P.M. in the Hotel Traymore, Atlantic City.

Following are the tentative sectional programs:

NATURAL GAS DEPARTMENT

MONDAY MORNING, OCTOBER 26
10 o'clock
Ambassador Hotel

Main Technical and Research Committee Meeting
H. C. COOPER, *Chairman,* Hope Natural Gas Co., Pittsburgh, Pa. (Note: This meeting open to all Natural Gas Department members.)

MONDAY AFTERNOON, OCTOBER 26
2:00 o'clock

Wm. Moeller, Jr.

Opening remarks by the Chairman
WILLIAM MOELLER, JR., Southern California Gas Co., Los Angeles, Calif.

Report of Main Technical and Research Committee
H. C. COOPER, *Chairman,* Hope Natural Gas Co., Pittsburgh, Pa.

Polymerization of Natural Gas
DR. J. S. CAREY, M. W. Kellogg Company, Jersey City, N. J.

The Trend of Natural Gas in Industry
FRANK H. ADAMS, General Manager, Surface Combustion Corporation, Toledo, Ohio.

Improving Capacity of Large Transmission Pipeline by Internal Cleaning with Pipeline Scraper.
F. J. TRELEASE, Ford, Bacon & Davis, Inc., New York, N. Y.

Report of Nominating Committee
JOHN B. TONKIN, *Chairman,* Peoples Natural Gas Co., Pittsburgh, Pa.

MONDAY EVENING
6:30 o'clock

Annual Meeting and Dinner of the Executive, Managing and Advisory Committees, Natural Gas Department

ACCOUNTING SECTION

TUESDAY AFTERNOON, OCTOBER 27
2:00 o'clock

F. L. Griffith

Address of Chairman
F. L. GRIFFITH, The Peoples Gas Light & Coke Co., Chicago, Ill.

Report of Nominating Committee
A. S. CORSON, *Chairman,* The United Gas Improvement Co., Philadelphia, Pa.

Report of Luncheon Conferences Committee
E. N. KELLER, *Chairman,* Philadelphia Electric Co., Philadelphia, Pa.

Developments in Uniform Classification of Accounts
H. C. HASBROUCK, H. C. Hopson & Co., New York, N. Y.

Report of General Accounting Committee
H. L. GRUEHN, *Chairman,* Consolidated Gas Electric Light & Power Co., Baltimore, Md.

Accounting Regulation
(Speaker to be announced)

Report of Customer Relations Committee
I. K. PECK, *Chairman,* Binghamton Gas Works, Binghamton, N. Y.

(a) Complaint Causes and Their Correction
P. W. HERRING, *Chairman,* Chicago, Ill.

(b) Ninety Ways To Improve Customer Relations
LOUIS STOECKER, *Chairman,* Newark, N. J.

THURSDAY AFTERNOON, OCTOBER 29
2:00 o'clock

Report of Statistics Committee
J. L. CONOVER, *Chairman,* Public Service Electric & Gas Co., Newark, N. J.

Report of Accounting Machines Committee
P. J. SWEENIE, *Chairman,* The Peoples Gas Light & Coke Co., Chicago, Ill.

Report of Customer Accounting Committee
R. B. MILNE, *Chairman,* Columbia Gas & Electric Corp., New York, N. Y.

(a) Effect of Recent Economic Conditions on Collection Methods
J. A. WILLIAMS, *Chairman,* Syracuse, N. Y.

(b) Continuous Turn-on and Turn-off Service Order System
R. T. DUDREAR, *Chairman,* Philadelphia, Pa.

(c) Methods of Ascertaining and Maintaining Correct Customer Names
J. W. MACKIE, *Chairman,* Wilmington, Dela.

Report of Office Management Committee
W. N. GEITER, *Chairman,* Consolidated Edison Co. of New York, New York, N. Y.

(a) Preparation of Correspondence Manuals
J. J. NATALE, *Chairman,* Philadelphia, Pa.

(b) Health Promotion Activities
M. F. REEDER, *Chairman,* Chicago, Ill.

ACCOUNTING SECTION LUNCHEON CONFERENCES

WEDNESDAY, OCTOBER 28
12:30 o'clock
Ritz Carlton Hotel

The following subjects will be discussed at the Accounting Section Luncheon Conferences to be held at the Ritz Carlton Hotel on October 28, starting at 12:30 P.M.:

Credits and Collections
Office Management
Customer Accounting
Customer Relations
General Accounting

ADVERTISING

LUNCHEON SYMPOSIUM
OCTOBER 29
12:30 o'clock
Venetian Room, Ambassador Hotel

(Tickets must be purchased by 9 A.M. Thursday, October 29, at A. G. A. Registration Desk. Tickets $1.25. All delegates to the Convention, all persons interested in the national advertising program, and all members of the Public Utilities Advertising Association are invited to this Symposium.)

Presiding
T. J. STRICKLER, *Chairman,* Committee to Conduct National Advertising

Speakers
HENRY OBERMEYER, *Chairman,* Publicity and Advertising Committee
DONALD D. PARRY, *President,* Public Utilities Advertising Association

Discussion
Full opportunity will be afforded those who desire to present their views on the Association's national advertising program, and ways and means of effective local tie-in with it.

COMMERCIAL SECTION

TUESDAY, OCTOBER 27
2:00 o'clock

C. E. Bennett

Why and How Local Tie-In Is Necessary with the National Advertising Program
HENRY OBERMEYER, Consolidated Edison Co. of N. Y., Inc., New York, N. Y.

Long Term Financing Plans and Results
Speaker to be announced

Effect of Promotional Rates on New Business
HUGH CUTHRELL, The Brooklyn Union Gas Co., Brooklyn, N. Y.

Appliance Performance Characteristics Demanded by Present Day Competition
Speaker to be announced

WEDNESDAY, OCTOBER 28
2:00 o'clock

Prize Presentations of the Range, Refrigerator and Water Heater Contests

THURSDAY, OCTOBER 29
2:00 o'clock

Broader Viewpoint of Home Service
E. M. THARP, Columbia Gas and Electric Corp., Columbus, Ohio.

Refrigeration
Speaker to be announced

Campaigning for Water Heating Sales
R. J. CANNIFF, Pittsburgh Water Heater Co., Pittsburgh, Pa.

House Heating Progress During 1936
B. T. FRANCK, American Light and Traction Co., Chicago, Ill., *and*
E. H. LEWIS, St. Louis County Gas Co., Webster Groves, Mo.

Plans and Methods of Hitting the New Home Market
R. S. AGEE, Washington Gas Light Co., Washington, D. C.

HOME SERVICE

TUESDAY AFTERNOON, OCTOBER 27
4:00 o'clock
Crane Building, Adjoining Convention Hall

Time and Temperature
JANE ROBERTS, Roberts and Mander Stove Co., Philadelphia, Pa.

Discussion

What Makes Good Home Service Newspaper Copy
ELOISE DAVISON, Herald Tribune Institute, New York City

Symposium: Drama in Home Service or What's New

Group of Two Minute Talks

Small Cooking Schools Designed for Selling
MRS. ELIZA STEPHENSON, Jersey Central Power & Light Co., Asbury Park, N. J.

Drama Highspots in New Jersey
MILDRED BAILEY, Public Service Electric & Gas Co., Newark, N. J.

Examinations for Girl Guide Certificates
HELEN BATES, Consumers Gas Co., Toronto, Ont., Canada.

Radio Ideas for Lecture Demonstrations,
ELSIE HINKLEY, Station WCAU, Philadelphia, Pa.

Other subjects to be announced

BREAKFAST MEETING
WEDNESDAY MORNING, OCTOBER 28
8:30 o'clock
Shelburne Hotel

(Purchase tickets by 5:00 P.M., Tuesday, October 27, at A. G. A. Registration Desk. Tickets $1.25.)

Beatrice C. Wagner

Address of Chairman
BEATRICE COLE WAGNER, The Philadelphia Gas Works Co., Philadelphia, Pa.

Greetings
L. B. DENNING, *president,* and ALEXANDER FORWARD, *managing director,* American Gas Association.

Impressions of Home Service from the Chairman of the Commercial Section
CHARLES E. BENNETT, The Manufacturers Light & Heat Co., Pittsburgh, Pa.

Group of two-minute talks on Home Service Activities:

How Home Service Meets Competition
MRS. ARRA MIXTER, Hartford Gas Company, Hartford, Conn.

Drama in Cooking Schools
MRS. MARJORIE WARDMAN, Long Island Lighting Co., Bay Shore, L. I.

Analysis of Home Calls
RUTH SHELDON, Washington Gas Light Co., Washington, D. C.

Kitchen Planning in a Home Service Program
FRANCES LEONARD, Peoples Water & Gas Co., Miami Beach, Fla.

Classes for Employees
IRENE HICKEY, Detroit City Gas Co., Detroit, Mich.

INDUSTRIAL GAS SECTION

TUESDAY AFTERNOON
2:00 o'clock
Municipal Auditorium, Room C

Charles W. Gale

Presiding Officer—CHARLES W. GALE, *Chairman,* Industrial Gas Section, Knoxville Gas Company, Knoxville, Tenn.

The Chairman's Address

Report of Committee on Nominations
JOSEPH F. QUINN, *Chairman,* The Brooklyn Union Gas Co., Brooklyn, N. Y.

Election of Officers

Necessary Sales Activities for a Healthy Growth of Commercial Gas Sales
ROY E. WRIGHT, New England Gas & Electric Co., Cambridge, Mass.

A Recapitulation of the Progress Made in Applying Gas Air Conditioning to Industrial Plants
CHARLES W. SWENSON, Consolidated Edison Co. of N. Y., New York, N. Y.

WEDNESDAY AFTERNOON
12:30 o'clock
INDUSTRIAL GAS CLUB LUNCHEON
Ocean Lounge, Ambassador Hotel

(All delegates to the Convention are invited to attend the Club Luncheon. Tickets are on sale at the Registration Desk and must be purchased before 10:00 A.M. Tuesday. Price $1.25.)

Presiding
CHARLES W. GALE, *Chairman,* Industrial Gas Section

What Industrial Gas Means to the Balance Sheet
FRANK C. SMITH, President, Houston Natural Gas Company, Houston, Texas.

WEDNESDAY AFTERNOON
2:15 o'clock

Presiding Officer
CHARLES W. GALE, *Chairman,* Industrial Gas Section

Some Practical Methods of Building and Holding Commercial Cooking Load by the Use of Diversified Appliances
LAWRENCE R. FOOTE, Central Illinois Electric & Gas Co., Rockford, Ill.

What the Gas Industry Now Has To Offer in Commercial Cooking Appliances
W. FRANK ROBERTS, Standard Gas Equipment Corp., Baltimore, Md.

Engineering Improvements in Industrial Gas Apparatus and Their Economic Effect
O. L. MADDUX, United Gas & Fuel Co. Ltd., Hamilton, Ontario.

THURSDAY AFTERNOON
2:00 o'clock

Presiding Officer
CHARLES W. GALE, *Chairman,* Industrial Gas Section

Today's Methods of Selling Natural Gas to Industrial and Commercial Customers
E. P. KRAMER, Atlanta Gas Light Co., Atlanta, Ga.

What Factors Should Govern the Decision of Gas Companies in Purchasing or Building Industrial Gas Equipment?
LEO SULLIVAN, Rochester Gas & Electric Corp., Rochester, N. Y.

Combustion Controls for Gas-Fired Boilers —Their Importance to Users and Utilities
L. S. REAGAN, Webster Engineering Co., Tulsa, Okla.

TECHNICAL SECTION
TUESDAY, OCTOBER 27
2:00 o'clock

Address of Chairman
F. A. LYDECKER, Public Service Electric & Gas Co., Newark, N. J.

F. A. Lydecker

Report of Nominating Committee
C. A. HARRISON, *Chairman,* Toledo Edison Co., Toledo, Ohio.

Radio Communication to Mobile Units for Normal and Emergency Dispatching in the Operation of Public Utilities
K. KENDALL BERLYN, Northern Indiana Power Co., Kokomo, Ind.

The Economics of the Gas Industry
A. M. BEEBEE and R. E. GINNA, Rochester Gas & Electric Corp., Rochester, N. Y.

Report of the Distribution Committee
G. H. BOYD, *Chairman,* Consolidated Edison Co. of New York, New York, N. Y.

Report to the American Gas Association
DR. SCOTT EWING, Research Associate, National Bureau of Standards, Washington, D. C.

The Syracuse Power Mixer
H. K. SEELEY, The Syracuse Lighting Co., Syracuse, N. Y.

THURSDAY, OCTOBER 29
2:00 o'clock

Report of Chemical Committee
LOUIS SHNIDMAN, *Chairman,* Rochester Gas & Electric Corp., Rochester, N. Y.

Trend in Developments in Boiler Feedwater Conditioning
S. T. POWELL, Baltimore, Md.

The Purification of Commercial Gases at Elevated Temperatures
PROF. WILBERT J. HUFF and DR. LLOYD LOGAN, The Johns Hopkins University, Baltimore, Md.

Report of the Gas Production Committee
A. E. LOCKWOOD, *Chairman,* Penn-Western Service Corp., New York, N. Y.

The Economics of Oil Refining by the Gas Industry
D. W. WILSON, The M. W. Kellogg Co., Jersey City, N. J.

Method of Determining the Relation of Generator Fuel, Oil and Tar in the Evaluation of Heavy Oil for Carburetted Water Gas
H. G. TERZIAN, United Engineers & Constructors, Inc., Philadelphia, Pa.

More Gas Research Urged at Pacific Coast Meeting

THE importance of continued research to the gas industry was emphatically brought out at the recent annual meeting of the Pacific Coast Gas Association at San Francisco. In addition to informal discussions on this subject, it was particularly stressed by H. M. Crawford in his President's Address and the following resolution was unanimously adopted:

"The Pacific Coast Gas Association especially endorses that part of the address of President H. M. Crawford which calls upon the industry for more research in gas utilization. We believe that research is essential to the continued progress of the industry and that it should be directed not only toward the improvement of gas-burning equipment but also toward the development of new fields in which gas can be of service. Every available agency should be utilized to these ends including the laboratories of gas companies, of gas appliance manufacturers and of the American Gas Association."

Following are President Crawford's remarks, referred to in the resolution:

"Unlike some of our competitors, the gas industry has no very large and powerful manufacturers. Instead, we have hundreds of manufacturers scattered all over the country—none of them in a position to really dominate the business. Under these circumstances they have made remarkable strides in developing appliances of all types, so that today we have better appliances with which to work than at any time in our history.

"However, the problem of developing future new uses for gas, and improving old methods to enable us to meet competition, necessitates a technical study of all utilization problems in the domestic, commercial, industrial and agricultural fields. The development of refrigeration, air conditioning and scientific baking on a commercial scale, are just a few examples of what research makes possible for the gas business. This is not a problem with which the various manufacturers alone can successfully cope, but it is one with which the utilities are vitally concerned, and if we have come to the point where we have recognized, nationally, the need for advertising in business, the next logical step should be the recognition of the fact that some centralization of technical research should be created to look to our future.

"There is no group of men, however inspired and loyal, that can combat competition and extend our business without adequate tools with which to work. The utilities should provide the funds to permit of research which will help the manufacturers to provide the tools.

"The American Gas Association has made a brave start and accomplished much, in the face of some difficulties, but the importance of the subject to the whole industry is such that difficulties must not stand in the way of industry progress."

World Power Conference Attracts Gas Men from Many Countries

DISCUSSIONS relating to gas service played a considerable part in the proceedings of the Third World Power Conference in Washington September 7-12. Many papers were presented as a whole or as a joint production by the gas industry in a number of countries, forming an interesting and valuable compendia. This was particularly true of the gas part of Paper No. 6 "Organization of the Production, Transportation and Distribution of Natural Gas and Manufactured Gas" upon which papers were presented in a variety of languages and from the standpoint of the members of the industry in a number of countries.

Gas Proceedings

The session devoted to this paper was presided over by Walter C. Beckjord, vice-president and general manager and chairman of the Executive Committee of the Columbia Gas and Electric Corporation, assisted by M. August Serruys of the Belgian Ministry of Public Works. President Denning and Mr. Beckjord gave cordial welcome to the foreign delegates. Walter B. Wooden of the Legal Division of the Federal Trade Commission read a discussion not authorized by the Commission criticizing the gas industry along the lines pursued by the Trade Commission's investigation under the Walsh Resolution. He was answered at once by President Denning. Mr. Denning remained at the Conference throughout the week, attending all sessions in which the industry was interested and greatly clarified the discussions at many points.

No papers were read, and the talks were based on the printed papers.

Many foreign delegates took part, some in their own language and some in English.

In the discussions of Paper No. 12, Mr. Denning traced the causes and history of natural gas wastage and the leading part played by the Lone Star Gas Company in bringing about the move for conservation in the large fields in Texas. Other papers were also commented upon by Mr. Denning and Mr. Beckjord.

On Wednesday, September 9, Mr. Denning was host in the Thomas Jefferson Memorial Room at The Mayflower at a luncheon for foreign gas delegates. Among the guests were Thomas Hardie, director of the Gas Light and Coke Company of London and former president of the Institution of Gas Engineers; R. W. Hunter, chief engineer of the Gas Light and Coke Company of London; E. J. Fottrell, manager of the National Gas Council of Great Britain and Ireland; Dr. H. Schuette of Bremen; Dr. Robert Mezger, operating director of the City of Stuttgart's Gas Works; Dr. F. L. Winkler of Hamburg; Dr. H. Meyer, managing director of the Wirtschaftliche Vereinigung Deutscher Gaswerks, of Berlin; Dr. Robert Hartmann, managing director of the City of Breslau's Gas and Water Pipe Lines; and Franz zur Nedden, managing director of the German Gas and Water Association, Berlin. Among other guests were F. Schobert of Graz, president of the Austrian Gas Association and W. A. Tobler of Vevey, Switzerland, vice-president of the Swiss Gas and Water Association. Dr. Yoshikiyo Oshima of the Imperial University at Tokyo, Japan, was unable to be present.

Mr. Denning informally voiced appreciation at the presence of so many distinguished men from other lands. A most graceful response was made by Dr. H. Schuette, former president of the German Gas and Water Association and the first honorary member of the American Gas Association in his country. American gas men who were also guests of President Denning were Walter C. Beckjord, William A. Dougherty, J. D. Creveling, Marcy L. Sperry and Alexander Forward.

Perhaps half of the meeting the morning of September 11 was occupied by discussion of gas subjects on the paper "Rationalization of Distribution of Electric Energy and of Gas." Among those speaking were Dr. Winkler, who read his remarks both in German and in English, Dr. Mezger and Mr. Tobler.

The American Gas Association Exhibit in the National Museum, where was also held the meeting on conservation, attracted much attention and received many compliments. It remained in place from August 15 to September 15 and was seen by 100,000 people. President Denning examined it with interest and pleasure.

Newspaper accounts to the contrary no representative of the gas industry walked out of any meeting except at a late hour to discharge their duties as hosts.

Conference Tours

A number of our visitors took part in the pre-Conference and post-Conference Tours. They were accompanied by Dr. Horace C. Porter of Philadelphia as the official tour secretary for the gas industry. Separate tours were chosen by some of the delegates. The following inspected The East Ohio Gas Company's facilities and the American Gas Association Testing Laboratories at Cleveland: Commander Ryaichiro Enomoto, Imperial Japanese Navy, Tokyo, Japan; Olaf Engbo, consulting engineer, Copenhagen, Denmark; J. Henry Scattergood, treasurer, Bryn Mawr and Haverford Colleges, Philadelphia, Pa.; Wm. Alexander Lee and wife, secretary, Mining Association of Great Britain; C. C. Hsiao, technician, National Geological Survey of China; Arnaldo Pacanins, Ministry of Promotions, Venezuela; Madame G. E. LeMaitre, wife of utility executive of Geneva, Switzerland, and Paris, France; Frau Laszlo deVerebely, wife of Professor deVerebely, of the Royal Hungarian Technical University, Budapest, Hungary; Councillor James Ker-

(Continued on page 344)

Visiting World Power Delegates

Foreign delegates and their hosts during pre-conference tour. In the picture, left to right, are: Commander Ryaichiro, Japan; Olaf Engbo, Denmark; R. M. Conner; C. F. Turner; T. Starke; H. C. Porter; J. Henry Scattergood; J. F. Gray; William Alexander Lee, England; Mr. Mahoney; Mrs. Lee; F. O. Suffron; C. C. Hsiao, China; G. H. Bender; Arnaldo Pacanins, Venezuela; G. Palm, Germany

C. C. Hsiao, technician, National Geological Survey of China, and Arnaldo Pacanins, Ministry of Promotions, Venezuela, inspecting a modern gas range

American Breakfasts "Thrilling"

During the visit of World Power Conference delegates to the A. G. A. Testing Laboratory, the ladies of the party were much interested in American domestic sciences. Frau De Verebely was quite taken with American breakfasting habits particularly manufactured foods and canned fruit juices. "American breakfasts are thrilling," said she. "In Hungary nothing but coffee, rolls, and butter are the rule." Both Frau and Fraulein Menge and Madame LeMaitre concluded that "American women must love to cook very much, so handsome is the apparatus they use."

Inspect Association's Laboratories

Left—Looking over appliance testing equipment. Left to right; Dr. Friedrich Schraeder, Mannheim, Germany; Councillor James Kerfoot, London; F. O. Suffron; Major Koyu Moriya, Japan; Edwin Hanson, Baltimore

Above—A distinguished group of visitors. Left to right, standing: Dr. Baurat Ludwig Kallir, Bureau of Austrian Industries, Vienna; Dr. W. E. Wickenden, President, Case School of Applied Science, Cleveland; Prof. Laszlo deVerebely, Budapest, Hungary; Maurice Holland, Washington. Seated: Mrs. C. B. Krause, Cleveland; Frau L. deVerebely

Below—Commander Ryaichiro Enomoto, Imperial Japanese Navy

Right—Eight members of Pre-Conference Tour No. 3 at the A. G. A. Laboratory on August 31. Left to right, front row: Madame G. E. Lemaitre, Switzerland and France; Frau L. deVerebely, Hungary; C. Dubuisson; Fraulein Ursula Menge, Germany; Mrs. F. O. Suffron; Frau A. Menge, Germany; Mrs. C. B. Krause. Back row: Councillor James Kerfoot, England; Edwin Hanson; R. M. Conner; Dr. Friedrich Schraeder, Germany; K. H. Flint; Major Koyu Moriya, Japan; F. O. Suffron

(Continued from page 341)

foot, Manchester Authority, London, England; Edwin Hanson, superintendent of transmission, Susquehanna Transmission Companies, Baltimore, Md.; Dr. Friedrich Schraeder, Wasser-Gas-und Elektrizitats Werke, Mannheim, Germany; Major Koyo Moriya, ordnance inspector, Japanese Imperial Army; Frau A. and Fraulein Ursula Menge, wife and daughter of president, Elektro-Werke, A. G., Berlin, Germany.

The visitors were guests of C. E. Gallagher, president, The East Ohio Gas Company, at luncheon in the Cleveland Chamber of Commerce Rooms.

Space in this magazine would fail any attempt to list the names of all those who so generously contributed of their time and their thought to assure adequate participation by the industry in the Conference and it would also fail any attempt to list those who generously entertained our friends from abroad on their tours. All visiting gas men were invited to and attended a dinner to World Power Conference delegates from other countries given by the Consolidated Edison Company of New York at the Astor Hotel September 14.

Gas System Shown at Exposition

THE gas system pictured in this unique display at the Great Lakes Exposition, Cleveland, is that of the East Ohio and Hope Natural Gas Companies. The East Ohio is the transmission and distribution company which serves communities mostly in northeastern Ohio comprising approximately 500,000 customers in sixty-three towns and cities. The largest city served is Cleveland. Akron and Youngstown are also part of the system. The Hope Natural Gas Company is the West Virginia producing company from which the East Ohio Gas Company obtains the bulk of its natural gas supply.

As nearly as possible, the map is accurate to scale, and its proportion of production in the two states is correct. Producing areas are shown in tinted outlines, and are faithful to the limits of the fields and pools comprised in the system.

Action in the map unfortunately does not show in this photograph, but in the original, it attracted an immense amount of curiosity and interest. Neon tubes traced the trunk lines of the two systems, making very concrete and visible the transmission of natural gas a total distance of approximately 300 miles, through a main line system totaling 1,651 miles of pipe carrying gas at high pressure.

The East Ohio Gas Company also has a model kitchen display at the Great Lakes Exposition featuring a gas range and gas refrigerator. All told there are four model kitchens at the exposition telling the story of gas in the kitchen to between 1,500 and 3,000 people each day. In addition three gas range manufacturers are maintaining well-arranged displays and Electrolux has a complete display of refrigerators. Gas ranges are also shown in the enamel industry's exhibit.

House heating with gas is well covered in three winter air conditioning displays, a conversion burner and a gas boiler display. The East Ohio Gas Company, as part of its display, features a model furnace room, in which are installed a winter air conditioning plant, modern gas water heater and gas incinerator.

Gas is used for cooking and water heating in all of the large and a great majority of the smaller restaurants.

To date the attendance at the Exposition which opened June 27, 1936, has been over 2,000,000 persons. Over 500,000 are known to have inspected the various exhibits where gas is featured.

Arthur Hewitt Is Dead

ARTHUR HEWITT, president and general manager of the Consumers Gas Company of Toronto, director and past president of the American Gas Association, and one of the most beloved and respected men in the gas industry, died September 17, 1936.

Mr. Hewitt was born in Wolverhampton, England, sixty-eight years ago, leaving that city with his family to come to Toronto in 1881. He was educated at Ryerson School in that city, continuing his studies at a business college.

His first business training, which stood him in such good stead in after years, was a reporter on the Toronto Express and Star, a paper which he joined in 1885. Journalism did not hold him long. His next business experience was with a firm of lumber merchants, but his next and last change placed him in the sphere which he adorned for just a few months short of fifty years.

Progressed with Company

When Mr. Hewitt joined the company in 1887, the Consumers' Gas Company had 9,004 customers and the output of gas was considerably less than one million feet a day. To-day there are 170,000 customers and they use more than 22,000,000 feet a day.

His progress after he joined the company as a private secretary to general manager was rapid. He proceeded through the accounting departments to the position of assistant to the general manager whom he succeeded in 1909.

The promotion of the use of gas in the home and in industry had in him an aggressive executive. The new business departments of the company had his strong support and his interest in home service work is well-known to the industry. As an official and later as general manager and president of the company, he was always zealous in cultivating good public relations.

The following quotation from a Toronto daily paper, on his appointment as president of the company in November 1934, is a sample of the results of these particular efforts:

Arthur Hewitt

"An outstanding achievement of this company—for which much of the credit naturally belongs to the general manager—has been the winning of public goodwill unexcelled by other institutions. This goodwill has been the result, no doubt, of manufacturing an excellent product, of the training of employees to render the best possible service, and a policy of frankness in public relations."

Was A. G. A. President

In the course of a very busy career, Mr. Hewitt had time to be president of the American and the Canadian Gas Associations, president of the Toronto Board of Trade, president of the Empire Club of Toronto, president of the Royal Canadian Institute—a high honor for a layman—honorary chairman of the Board of Trade Club, vice-president of the Ontario Associated Boards of Trade, chairman of the Toronto branch of the Victorian Order of Nurses, and a director of the Ontario Safety League. He was a former treasurer of St. John's Lodge of Masons and a member of the Rameses Shrine.

While Mr. Hewitt was a keen bowler and golfer, music remained his passion, his hobby and his relaxation outside of business hours. It remained the avenue along which he was able to steal away from the tension of the business world.

A few years ago a Toronto financial paper used these words about him which may be here quoted:

"Arthur Hewitt is living a full, happy and useful life. He has a cordial, friendly manner. He has the faculty of being sincerely interested at once in those he meets. In conversation he is interested and interesting, with unfailing courtesy and a lively sense of humor. He is of medium stature, active, close-knit. He is eminently fitted to work well with other men, has the highest regard for his fellow members on the board of directors and with most of those with whom he deals."

Philosophy of Life

His own words uttered, we believe, before the American Gas Association of which he was proud to be president, typifies the outlook on life that was an inspiration to himself and his business associates:

"But the true secret of it all is that we ought to live as far as we can in the day, the hour and the minute, to waste no time in anxious forecasting and miserable regrets but just to do what lies before us as faithfully as possible. Let us face the future not with an unconquerable despair but with a great hope."

Mr. Hewitt leaves to mourn his loss, his wife, nee Miss Westman of Toronto, a son, Gordon W. Hewitt, barrister, and a daughter, Edythe, who lives at home.

Gold Medal to Pollard

JAMES F. POLLARD, president of Seattle Gas Company, Seattle, Washington, and newly elected president of the Pacific Coast Gas Association, has been awarded a gold medal by the Pacific Coast Association for his leadership in the cause of national advertising.

Trends in Gas Appliance Design

By F. E. VANDAVEER

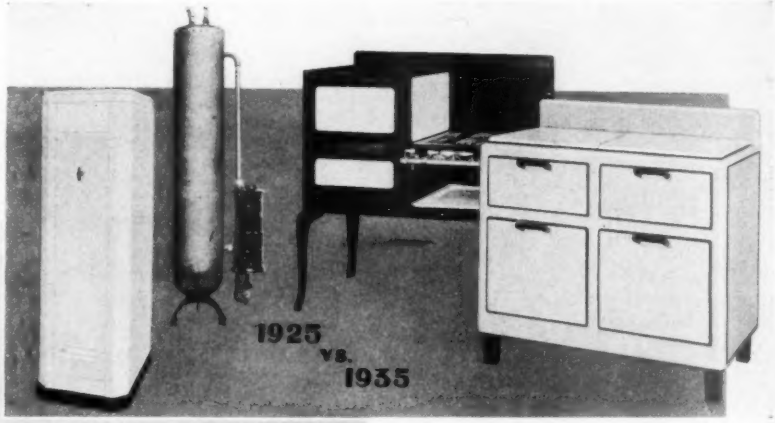
Supervisor, A. G. A. Testing Laboratories

TO be successful in the gas appliance industry of today and tomorrow, manufacturers must continue to improve and perfect their appliances and develop new ones. Keeping abreast of or in advance of competitive designs to maintain and increase sales is becoming more and more of a necessity. Failure to do so may soon cause a company to lose out entirely. In the automobile business, new models are produced yearly, thus continually stimulating the desire for a new car. To some extent this practice is followed by gas range manufacturers, and to a lesser extent by space heater companies. Development of furnaces and water heaters follows a much slower procedure, new products being developed at intervals of from one to ten years. Usually improvement is stimulated in these branches of our industry by some manufacturer bringing out a model which is accorded exceptional success, and competitors follow with modified designs.

More rapidly than is generally known, our industry is making use of scientific studies and research. With the increasing application of accessories for complete automatic operation of appliances, improvement in efficiencies, more symmetry and beauty of external appearance, it becomes necessary to maintain closer tolerance and greater accuracy and precision in manufacturing processes. Not only does this change necessitate better factory machinery, but employment of more scientifically trained men. Many companies are realizing the truth of this statement as evidenced by the fact that the American Gas Association Laboratories alone have supplied about fifteen men to the appliance industry within recent months, and over a period of ten years approximately fifty men from the Laboratories have been employed by manufacturers. These, of course, have been supplemented by men from universities and from the factories, who through contact with Laboratory tests become thoroughly acquainted with engineering principles in appliance design.

Most of the men here today are thoroughly acquainted with the trend in design of the type of appliances which your companies manufacture and probably have rather definite ideas on the subject. It is not my intention to pose as an expert on future designs or prophesy what will happen many years hence. However, because of our position in the clearing house through which new and improved appliances flow, a review of what has been taking place in recent months may form a foundation for future guidance. As progress in development of each of the four major types of appliances is

Presented before Manufacturers' Section, Pacific Coast Gas Association Convention, August 26, 1936.



Above—Appliances illustrating advancements made in the design of gas water heaters and gas ranges during the decade 1925-1935

Left—Gas space heaters which have been developed similar in appearance to floor lamps and flower pots. Though these examples are most unusual and have tapped small markets to date, they indicate the progressive viewpoint with which the manufacturers are re-styling their lines

entirely different, a brief résumé of each one will be given:

1. Central Heating Gas Appliances

(a) In this field the subject receiving the greatest amount of public attention is air conditioning. All of the large boiler and furnace companies now in business, and others just coming into the field, are working strenuously to perfect air conditioning equipment. On the Pacific Coast this development has its beginnings in the increased use of forced air or blower-type furnaces for winter air conditioning, with features of air cleaning and humidifying, and provision for attachment of parts for summer air conditioning.

(b) There is an ever increasing use of accessories for more automatic control of furnaces and for greater safety from explosion. Many manufacturers object to the use of new gadgets on the basis that they are trouble makers. However, these objections will not prevent their increasing use. Just as the automobile has been perfected by the increased use of accessories such as the starter, hydraulic brakes, electric lights, floating power, etc., so will accessories improve customer satisfaction with gas furnaces. Instead of working against this development, manufacturers should devote their energies toward perfecting the accessories used. Many are making considerable headway in this direction.

(c) Since the recent development of a compact blower basement furnace, several other new types of appliances have appeared on the market, among these being:

1. Floor furnaces with blower.
2. Floor furnaces with thermostats and safety pilots built in the units themselves.
3. Unvented floor heaters and wall heaters.

Conducting basic research on atmospheric burners at the A. G. A. Laboratory, Cleveland, under the supervision of the Committee on Domestic Gas Appliance Research

2. Water Heaters

(a) Stimulated largely by a change in the A. G. A. Approval Requirements, there has been a marked tendency toward increasing the efficiency and lowering the standby loss in automatic storage water heaters. More attention is being paid to heating surfaces, baffles, secondary air inlets, pilot consumptions and insulation.

(b) There is a marked trend toward improving the outside appearance of water heaters, such as using a square or rectangular jacket.

(c) The new fin type instantaneous water heaters are probably one of the latest developments in the way of new appliances for water heating.

(d) In the east and midwest, there has been considerable activity in the development of attachable water heaters without water carrying parts, making it easier to convert a range boiler tank into a complete automatic gas water heater. This development has not been promoted very actively on the Pacific Coast.

3. Space Heaters

(a) The use of thermostats for controlled room heating is receiving attention of both gas companies and manufacturers.

(b) The increased use of thermostats also necessitates, in many instances, the use of thermostatic pilots.

(c) The most noticeable change in space heater design in recent years is modernizing the appearance of cabinet or outside jackets of circulators or radiant heaters.

(d) In the way of new space heaters, different in design from the usual circulator radiant heater type, are those developed in Southern California with appearances similar to

1. A floor lamp.
2. A flower pot.
3. A pedestal type having the appearance of an electric grid.

4. Ranges

So many improvements have been added to gas ranges in recent years that it would seem to be almost impossible to add new things to them. Nevertheless, manufacturers of these appliances are still bringing out new and more desirable designs. Among the most recent developments may be listed the following:

(a) Ovens which are capable of maintaining accurate temperatures as low as 200° F. This permits low temperature oven cooking and canning.

(b) Along with the low temperature oven development, burners have been so designed that faster heating may be obtained. Ovens may now be brought up to 500° F. in less than ten minutes' time.

(c) There is a tendency to use a separate broiler burner and place this burner at a higher elevation than in the old table top oven type, locating it underneath the top burner section. This also has the advantage of permitting correct design for a broiler burner and oven burner. Both burners can, therefore, be made more satisfactory and perform the functions for which they are

intended, rather than the dual function as in most ranges now on the market.

(d) Great improvement has been made within the last year in increasing the efficiency of gas range top burners and also in making these burners faster in heating. Top burners on some ranges have been moved to a different and possibly more convenient location on the range, as, for example, by placing two of them on each side of the oven section, or placing four burners in a row at the top back of a range, or putting four burners in the center of the table top rather than on one side.

Domestic Appliance Research

Another important development of recent origin that has unquestionably influenced design and improvements in domestic gas ranges is the research work being carried out at our main Laboratory in Cleveland which is sponsored by F. J. Rutledge's Committee on Domestic Gas Appliance Research. This work has been in process intermittently for almost a year and to date some six progress reports have been completed that affect every important feature connected with gas range performance and design. Three of these reports have been summarized and presented verbally to representatives of the majority of the manufacturers now producing approved types of gas ranges. If there are any Coast gas range manufacturers who have not yet taken advantage of the opportunity to secure this information, they should take prompt steps to do so. Furthermore, some new and very interesting information will be available shortly that should likewise be obtained. Unquestionably, this project, which has been confined solely to the attainment of fundamental facts, has already become an important item in encouraging many of the various improvements which have been previously outlined.

Appliance manufacturers on the coast are continually improving and keeping abreast of the times. Although they were slowed down, they were never entirely stopped, even during the depression.

A further index of changes in appliances may be obtained from data taken from Pacific Coast Branch Laboratory records. This Branch Laboratory is now testing for 72 manufacturers as compared to 63 a year ago. This is an increase of 9 companies over last year, although it actually is an increase of 11, as two manufacturers dropped out. In addition, this Laboratory extends approval to 48 other companies, this being an increase of 8 companies in this classification over this same time last year. This makes a total of 120 companies being served by the Pacific Coast Branch Laboratory or an increase of 16.5 per cent over last year. At the end of the tenth month of the present A. G. A. fiscal year, there had been an increase of 6.6 per cent in total amount of test work done as compared to the same period last year. Surprising also is the fact that there had been almost an equal amount of work on each type of appliance, with the most testing being done on water heaters which accounts for 28.9 per cent of the total, central heating gas appliances 24.4 per cent, ranges 20.8 per cent, space heaters 19 per cent, and accessories 6.9 per cent.

Summarized in brief, this resumé of trends in appliance design clearly indicates that gas appliance manufacturers cooperating with other interests in the industry are making rapid progress in building appliances which will continue to please our customers and attract new ones.

"Heating for Health" Campaign Stirs Lone Star Employees

A BATTLE of friendly sales competition is being waged among employees of the affiliated companies of the Lone Star Gas System in its 1936 heating equipment campaign to bring to customers the advantages afforded by modern and up-to-the-minute gas heating appliances. Pitted against each other in a three-way fight are the Dallas Gas Company, the Fort Worth division of the Lone Star Gas Company, and the unit composed of Texas Cities Gas Company and Community Natural Gas Company.

C. L. Trevitt is directing the plan of battle for Community Natural-Texas Cities; E. C. Whitcomb, Fort Worth division, and C. K. Patton, Dallas Gas Company. Each man is new business manager for his respective unit.

Running concurrently with the heating equipment drive is the Lone Star System's second annual "Heating for Health" campaign. This project is based on the health theme, without any direct effort to sell gas appliances. The heating habits of the public which are dangerous to health are to be exposed and the hazards of poorly ventilated rooms are to be graphically portrayed.

There has been a growing tendency for domestic gas consumers generally to live in one or two unventilated rooms during the winter months, in order to save on their heating bills. This "huddling" has become so wide-spread during the fall and winter months that the situation has contributed to epidemics of colds, influenza, and other serious disorders of the respiratory tract.

The first advertisement in the 1936 "Heating for Health" drive appeared in newspapers over the system during the second week of August. It was entitled "Treacherous Months Ahead."

The ad called attention to the fact that people catch cold more easily in winter than in summer.

"The threat of cold germs is limited during summer months largely because warm weather living habits make it exceedingly difficult for cold germs to become active," said the advertisement.

"In summer there is an adequate circulation of pure warm air throughout the house. Since the temperature is approximately the same in each room during the warm season, the family is not subject to change. On the other hand, unless you provide adequate heat and proper circulation of pure warm air in every room of the house during the winter, sudden changes of temperature are unavoidable."

Advertisements similar to the one above will appear from time to time throughout the heating season.

Lone Star officials have pointed out that, in the "Heating for Health" drive, no type of equipment of any nature will be advertised in connection with this educational program, as it is purely and solely an effort to inform the public on how to use gas service to the best advantage in protecting health.

The heating equipment campaign was inaugurated August 1 and will continue through November. Following the standardization of prices, terms and selling policies, employees of the respective companies were organized to make 1936 the biggest heating equipment sales year in the history of the Lone Star group.

Appropriate prizes for leading teams and individuals in the respective company sales units have been set up to stimulate and reward employee interest and activity. The standing of employees and each individual distributing company in the Lone Star group will be determined largely by the amount of load represented by the various kinds of equipment sold. In order to encourage the installation of improved types of equipment all vented equipment installed during the campaign will be credited with double its normal hourly in-put.

The Obligation of Industry to a Fire Prevention Campaign

By N. E. BERTL

A. G. A. Representative to the National Fire Protection Association

INDUSTRY has taken a forward part in the development of many materials and compounds now indispensable to mankind, but has at the same time created potential fire hazards. These new found hazards, coupled with the already existing hazards, have combined to place a heavy responsibility upon Industry in the observance of fire prevention. In the Gas Industry we contact as public servant, in the use of our product, millions of people through home and industry, and their safety and welfare is pertinent to the growth of our industry.

Fire Prevention Week

It is with this thought in mind that your Association approaches its members in the Annual Fire Prevention Week Campaign (October 4-10, 1936) to offer suggestions of a helpful nature. The fact is stressed that fire prevention is an all-year campaign program; that Fire Prevention Week is simply the period in which we focus attention to this program, to check up results and take stock of progress. Eternal vigilance is the price of industrial security, and that security means uninterrupted business, the upholding of commercial credit, continued employment and the retention of trade channels that have taken years to acquire. All the valued assets of a flourishing business could be seriously impaired, if not totally lost, by the interruption of a major fire. Fire prevention authorities are aware of these increased industrial hazards, but cannot block progress by suggesting that they be abolished. They therefore set up standards by which they may be employed with a measure of safety, and call upon industry to cooperate in the observance of these standards by a properly planned program of fire prevention.

The best contribution that our industry can make to a fire prevention campaign, is first—a clear fire record of our own; second, that we educate the public we contact on fire prevention. Our industry, through the American Gas Association, cooperates closely with such nationally known authorities on fire prevention as the National Fire Protection Association and the National Board of Fire Underwriters. Then we have our American Gas Association Testing Laboratory, which is continually aiding fire prevention by regulating gas equipment standards and aiding equipment manufacturers to offer to the public safe and efficient equipment. What these activities have contributed to fire prevention can be numerically expressed from the statistics of the Actuarial Bureau of the National Board of Fire Underwriters. Over a ten-year period, the fire loss due to manufactured and natural gas produced and sold in the United States has declined 69% based on the send-out. This accomplishment represents only a part of our obligation to a Fire Prevention Campaign, and the need for greater activity is brought out in the following paragraphs:

Fire Waste

It is estimated that 10,000 lives are lost by fire each year, with over 18,000 injuries. More than half of these casualties occur in homes. Property loss by fire in 1925 amounted to $559,418,184, and well-directed efforts in fire prevention work have reduced this to $248,763,856 (estimated) in 1935, or a reduction of about 56% over a period of ten years. The United States fire loss for 1935 amounted to $1.95 for every man, woman and child. The average annual fire loss in the United States over a five-year period amounts to $400,000,000. This would pay for the gasoline required for America's 25,000,000 automobiles to proceed from New York City to Chicago, and in addition there would be several dollars left over for the occupants of each car to spend while there.

Another form of fire waste, of tremendous importance to everyone, is that which involves our timberland. An average of 156,183 forest fires occur each year, burning over an average of 41,538,895 acres annually. Besides the waste of timber as a natural resource, the last year's disastrous floods and drought can be directly attributed to losses in timberland. All these losses can be prevented, and are mainly due to careless campfires or smokers, sparks from engines and carelessness in clearing acreage for tilling.

Causes of Fires

Checking over some of the major causes of fires and their losses will aid in directing the efforts of fire prevention to those most prevalent. The figures given below on individual causes of fires are taken from the report of the Actuarial Bureau of the National Board of Fire Underwriters. Thirty per cent is added for unreported and uninsured losses. Only ten causes having largest amount of annual losses are noted herein.

	1934
Exposure	$ 26,028,496
Matches, smoking, etc.	23,082,767
Chimneys, flues, cupolas and stacks—overheated or defective	16,792,737
Petroleum and its products	13,050,874
Stoves, furnaces, boilers and their pipes	12,911,237
Sparks on roofs	12,165,230
Spontaneous ignition	11,369,251
Incendiarism	10,710,485
Electricity—hot irons (including electrical devices)	9,140,627
Unknown causes (probably largely preventable)	117,605,130

With these facts before us we can plan how our Association and its members can contribute directly or indirectly in fire prevention.

Our first efforts should be directed in improving our own fire record. The A. G. A. laboratory is doing an excellent job in making available safe and efficient equipment but we must also consider the need of following out

safe practice requirements for installation of these approved appliances. Your Association has cooperated with the National Fire Protection Association on a code of good practice requirements for the installation of Gas Piping and Fittings for City Gas known as Pamphlet No. 54 which can be obtained either from the National Board of Fire Underwriters or the National Fire Protection Association. Another valuable authority on fire prevention practices is the Crosby-Forster-Fisk Handbook on Fire Prevention published by the National Fire Protection Association.

The National Fire Protection Association acts as a clearing house for all authoritative information on fire prevention and members are privileged to submit individual problems for solution. Membership to this Association is open to any society, corporation, firm or individual interested in protection of life and property against loss by fire. All valuable engineering literature issued by the Association is sent as issued to every member. It would be of decided advantage for each utility and manufacturer to have a contact representative in their community on matters pertaining to fire prevention. Contacts with municipal authorities and Underwriters Associations promote excellent means of aiding in fire prevention and these authorities are generally open-minded for suggestions on local problems affecting our industry. Your Association's representative to the National Fire Protection Association will also be glad to hear from Association members on fire prevention problems and secure information or contacts for our membership.

A. G. A. Cooperation

Many of our utilities and members are aiding in fire prevention campaigns and have been complimented for their good work in the annual report of Chairman T. Alfred Fleming of the International Committee for fire prevention week at the annual meeting of the National Fire Protection Association. Great cooperation by our members to this humanitarian and economic movement is looked for by your Association for this year's fire prevention campaign.

There are numerous opportunities and means of disseminating "fire prevention" information by our company members. First we have the National Fire Protection Association, whose Chairman, T. Alfred Fleming, of the International Committee for Fire Prevention Week, can be contacted for aid in planning Fire Prevention Week. Also the A. G. A. representative to the National Fire Protection Association will be glad to offer his assistance to this cause.

To augment "fire prevention" material available at nominal cost from the National Fire Protection Association and National Board of Fire Underwriters, there are other inexpensive activities in which gas companies can take part.

Tie-in Opportunity

Window displays may be arranged for the week, calling the attention of the public to approved A. G. A.-tested appliances and making comparison with obsolete equipment or methods of installations which may be considered hazardous. This presents an excellent opportunity to capitalize on gas house heating, emphasizing its safety in comparison with other fuels where ashes and uncontrolled heat creates an inherent fire hazard. Where gas heating is used, basements are fitted up as recreation rooms, and the practice of using them as storerooms and for accumulation of rubbish is eliminated. These displays in showrooms will also give an opportunity to point out the safety features in modern gas equipment, and what the gas industry is contributing to the public for the use of a safe, efficient and clean fuel.

Safety rules for the home may be prepared on a small slip, to be included with gas bills, and invitations given to inspect the safe and modern gas equipment available. Thus the campaign is carried into every home and there will be an incentive created to install safer and modern gas equipment.

Meter readers and servicemen who contact the public have an opportunity of noting conditions in basements and homes and bringing hazardous condi-

(Continued on page 371)

K. P. Duty the New Way!

Legionnaire William Fortman and his buddy M. D. Eddy, delegates to the 1936 American Legion Convention, Cleveland, Ohio, step into the American Stove Company's model gas kitchen at the Great Lakes Exposition to explain that "K. P. duty somewhere in France was never like this. The gas the 20th Brigade Field Artillery got in the front lines was a little different from the gas this young lady uses for her culinary stunts." Fortman's and Eddy's drill team from Wollaston, Massachusetts, has just captured state honors for the third consecutive year

One Billion and a Half Cubic Feet of Gas Added during Refrigeration Campaign

F. E. Sellman

By F. E. SELLMAN

Chairman, Gas Refrigeration Division, Association of Gas Appliance and Equipment Manufacturers

THE "Leadership Campaign" on Electrolux Refrigerators held during the months of April, May and June of this year, has rather conclusively proved the value of national cooperative campaigns. This campaign was the third such campaign held under the direction of the Refrigeration Committee of the American Gas Association. The selling of gas refrigerators is an all-year job, yet I am convinced that by setting aside these three refrigeration months of the year for such special drives as the one just ended, is highly productive.

Million Dollar Load

It is estimated that more than a billion and a half cubic feet of gas was added to the annual output of those companies competing in this campaign. The fact that it was added during a three-month drive is significant. Conservative estimates place the value of this added gas load to our industry at $1,000,000 annually. It is reasonable to suppose that if equal effort and results were obtained during the other months that those competing companies could total up, not a billion and a half cubic feet or more but three billion cubic feet or more additional load. And instead of $1,000,000 additional revenue, we could total up $2,000,000 additional revenue, all of course, without any capital investment to be considered.

A very conservative estimate places the retail value of gas refrigerators reported installed during the campaign at $10,500,000.

Added to these estimated figures should be included the million and a half dollars paid to retail salesmen throughout the country for accomplishing this job. This, together with the awards made during the campaign, and the special bonuses paid by companies in the campaign, makes a very enticing picture of substantial earnings for men who demonstrated leadership.

During the campaign there were 1,044 cash awards made to salesmen and to gas companies. These awards total $27,230. Approximately 2,000 special sales and employee meetings were held during the campaign, and it took some 200,000 pieces of literature, portfolios, bulletins, posters, and other materials to both conduct the campaign and to bring it to its highly successful close.

Practically 100% of all meters eligible for this campaign actively participated. This number approximated 10,000,000 meters—the objective set by the Refrigeration Committee early in the year. It is hoped that in future campaigns it will be possible to add another 2,000,000 meters to this magnificent total. Some of the figures established by the companies competing in the various zones are absolutely amazing.

Gardner's Work Praised

The industry is in debt to the fine cooperative work of Ben Gardner, chairman of the A. G. A. Refrigeration Committee this year. In addition to his work as director of sales of the Columbia Gas & Electric Corporation, Mr. Gardner and his committee personally attended practically all regional and local gas company meetings for the duration of the campaign. The promotional effort and the thinking and planning of those silent partners who so ably helped to organize, originate, produce, distribute and to conduct the many details concerned with this campaign is a revelation in fine organization.

The selection of the "Sword of Merit" as a symbol of leadership for this campaign was at once both original and practical. Certainly nothing like it has ever been used or promoted before. I am sure that those who will receive their swords at the Atlantic City Convention can review the past accomplishments with a great deal of pride and satisfaction—pride in winning, but a deeper satisfaction based on the cold statistics of increased gas load, salesmen's incomes, merchandise profit, prestige with new customers and all of those facts that make for success.

However, as in any great campaign, only a few can win. To those many others who faithfully and carefully reported their results, who tried so hard to win, who used all the available sales promotion helps and advertising, who strived in every way to make the campaign a real success, goes my greatest respect. Without the effort of all, the results obtained during this campaign could not have been made. It takes much planning and considerable deep thought, as well as experience, to develop a campaign that will be universally and whole-heartedly acceptable.

H. S. Boyle is now tabulating all figures and data collected through experience during this and other campaigns. Such collected data will be of immeasurable value in preparing a campaign to present to the next A. G. A. Refrigeration Committee for an even sounder, greater and better campaign for 1937.

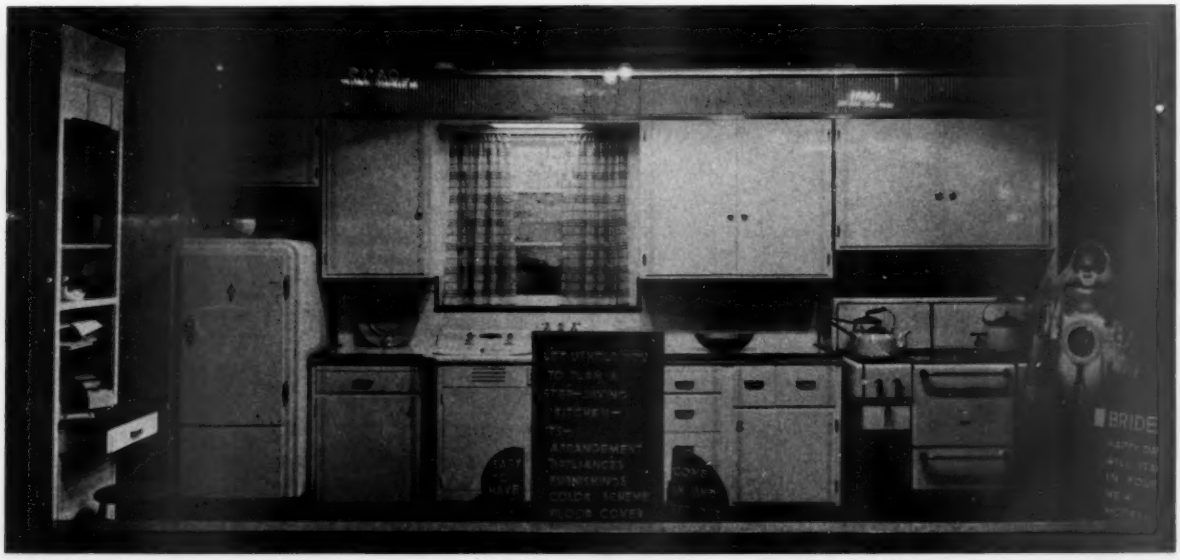
It is said that leaders are not extraordinary men. Rather, they are ordinary men who put extraordinary effort into their work. There is no question but that through the aid of the "Leadership Campaign" the Electrolux refrigerator has made another substantial bid for leadership in the domestic field.

Reprinted from A. G. A. E. M. Bulletin.

Attractive Animated Window Displays

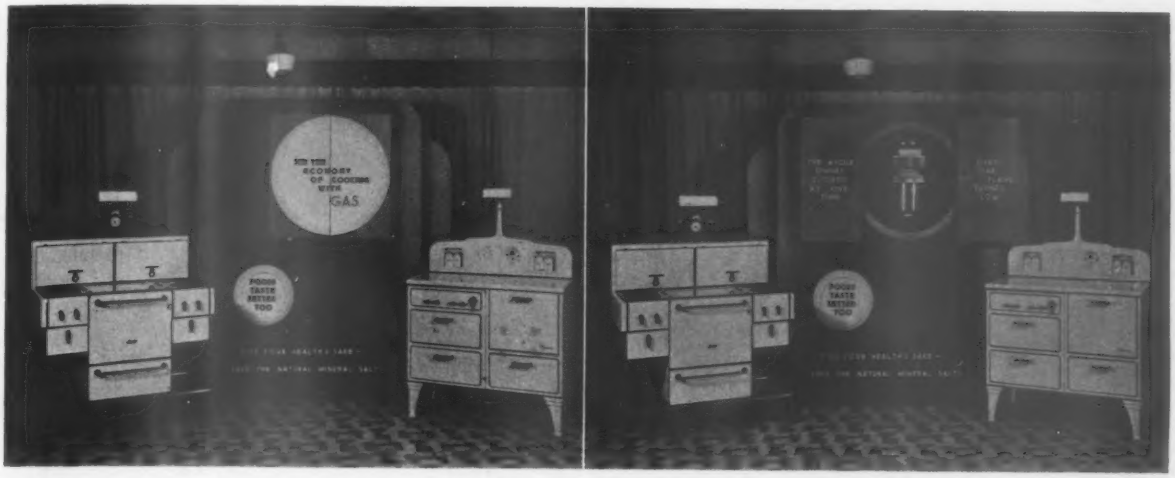
Illustrated here are a few of the attractive animated displays used by the Seattle Gas Company, Seattle, Washington, to promote the sale of modern gas appliances. Developed by the Display Advertising Department, under the direction of L. E. Lindsay, these displays have been widely admired as a most unique and effective method of telling the story of modern gas service.

REFRIGERATION BY GAS—*"The Miracle of Ice from Heat" is fully animated. A bright quartz-like flame of a small gas Bunsen burner boils a quantity of liquid in a test tube, forming a vapor that exudes full-sized cold, crystal ice cubes into a glass container. A simple, noiseless, foolproof mechanism has operated this animation faultlessly from 8 A. M. to 11 P. M. for 60 days and is still good*



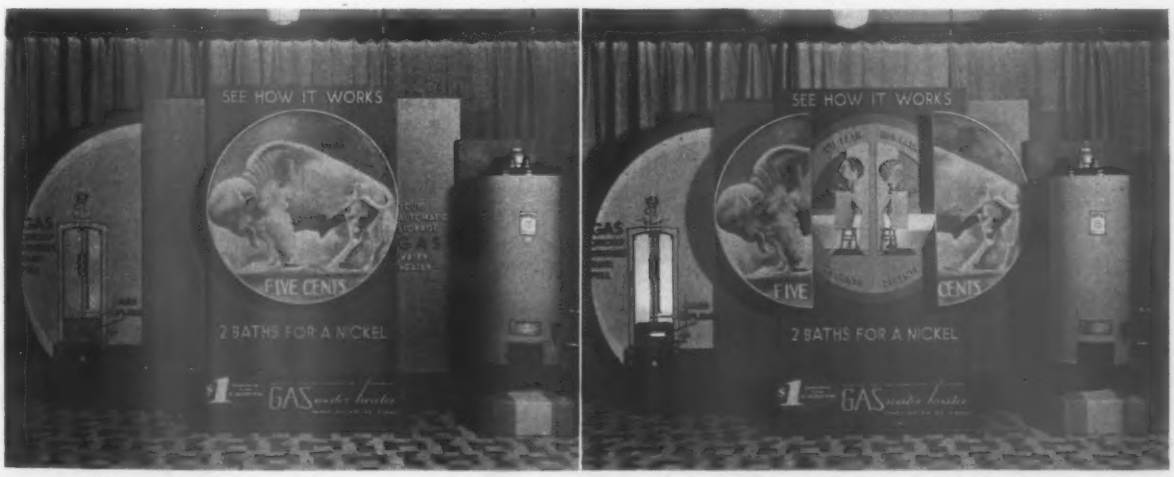
KITCHEN PLANNING—*This window was profitable and excited more than the usual interest. It also gave the gas appliances a "full front"*

Carry Story of Modern Gas Service

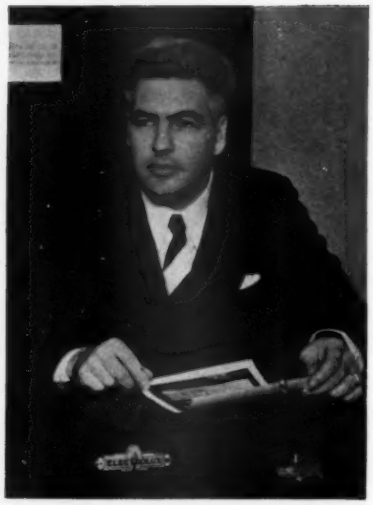


A MESSAGE OF IMPORTANCE—*The doors shown closed in the picture on the left open as shown on the right and the story of economical, good cooking continues, showing just how much dinner is being prepared. (1) The lid slowly rises, alone and comes to a suspended rest. (2) A pudding in glass dish follows alone. (3) Two glass containers of vegetables rise alone. (4) A delicious roast with the usual vegetables rises and comes to rest. (5) The doors close and the cycle repeats.*

The gas range burner is an object of great interest and many times such questions as these are asked: "How often do you put water in that kettle?" "Doesn't it get pretty hot in there?", etc. This burner is done in two colors of "Neon" tubes within an actual gas burner.



TWO BATHS FOR A NICKEL—*Pictured here are two views of an unusual display. At the left a storage water heater in transparent section is shown, in the center a huge five-cent piece, and at the right a modern storage gas water heater on display. Following is the cycle: (1) Gas burner ignites, the storage fills with hot water, and then fire snaps off. (2) One-half of the nickel opens and, as His Bathtub fills, the storage empties one-half. (3) Other one-half of nickel opens, and Her Bathtub fills, and the storage empties. (4) The gas flame snaps on and, as the storage recovers, the nickel quietly closes and the cycle re-enacts. Two cycles per minute and one revolution of a shaft performs the whole trick. A small 1/20 h.p. motor drives the show.*



B. K. Slaughter

Gas Appliances for Small Kitchens

By B. K. SLAUGHTER

Supervisor, Gas Promotional Division, Washington Gas Light Company, Washington, D. C.

THE revival of building activity has brought a new challenge to the gas industry. Modern departures in the design and construction of homes, coupled with increased competition, compel gas companies to keep their appliances abreast of the times if they are to enjoy a full share of the new business.

This is conspicuously true in the field of small compact kitchens, toward which a spreading trend has long been in evidence.

Architects have been prone to sacrifice space in that important room, making it smaller and smaller, feeling secure in the assumption that keen manufacturer competition, expert cabinet design and a seemingly endless variety of equipment would help them solve the problem of furnishing it.

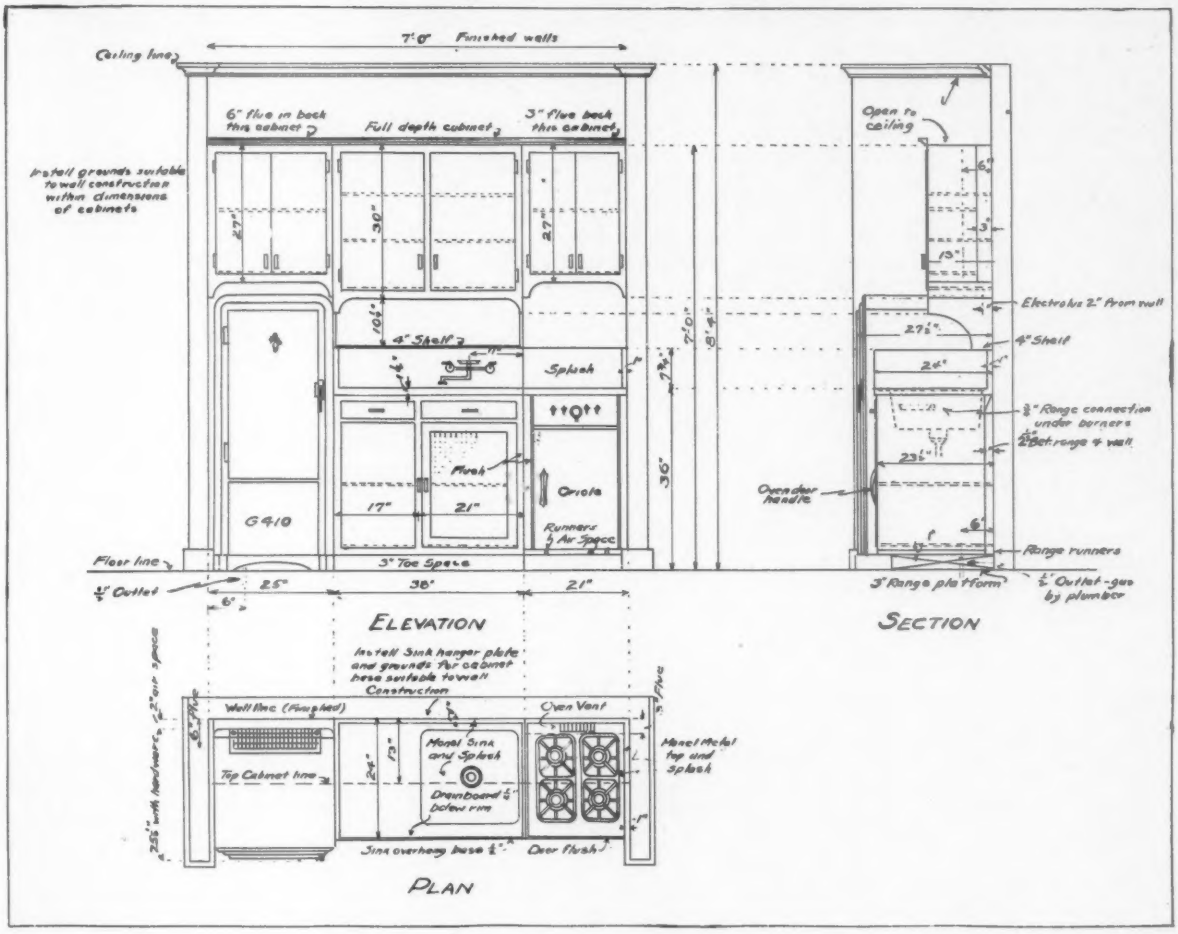
Washington, to an extent a city of apartments, has been close to the problem for several years. In 1935, when construction here took rapid strides forward, it was noted that small kitchens were coming into increasing favor for single dwellings. When building activity assumed boom proportions in 1936, they had become almost the rule for detached as well as for row houses. Also, during this period the demand for more commodious living rooms was making inroads on apartment kitchens, already lamentably small. With the advent of small kitchens came the need for coordinated, space saving equipment. Cabinet manufacturers were quick to recognize their opportunity and invaded this market with ready made units embracing essential appliances. Their offerings were avidly accepted by architects, builders and supply houses.

As early as the Spring of 1935 the Washington Gas Light Company realized that efforts to save space and save cost might readily compromise kitchen appliance standards fought for by the American Gas Association. This view was confirmed by the type of substandard equipment usually installed in the coordinated units as they swept to increasing popularity.

It was plainly our responsibility to step in and enforce standards. We counselled with manufacturers, dealers and building contractors. There was no opposition, but there was likewise no appreciable support. The 1935 building season netted but little progress: off-standard appliances continued to dominate this increasingly important field.

Through those efforts of 1935 we realized the extent of our problem. It

Small kitchen unit developed for Washington apartments



Plan of kitchen unit shown on preceding page

primarily concerned itself not only with the building industry but likewise with our own industry.

By 1936 we were ready. We had gone to equipment manufacturers with a frank statement of the facts and a definite proposal and were greeted with earnest assurances of cooperation. As a result the first model kitchen unit, embracing all the equipment standards of A. G. A. has been set up on our sales floor as a practical demonstration. It is a straight-line ensemble, designed for small apartments, to be utilized in a kitchen seven feet in length. Other models under development will be added to the display as rapidly as practicable.

Meeting the problem promptly and vigorously, this company is, we believe, far ahead of other cities. There is a driving reason for this. Washington is perhaps two years in advance of the country as a whole in building activity. Other gas companies will encounter the same need, though perhaps later. Being forearmed, their problem will be greatly minimized. A united front of gas utilities building local demand for quality merchandise in this particular market will encourage those manufacturers desirous of supplying it.

Utilities' Responsibility

We earnestly consider it a responsibility of the utilities to guide manufacturers in making acceptable equipment available. We believe that this crusade for better equipped compact kitchens will do much toward safeguarding the gas load of the future. Nothing, for instance, can so readily invite competition in replacement business as a poorly designed, unattractive, inefficient range; by the same token, nothing is so discouraging to competition as a fully equipped cooking unit embracing all the approval qualifications of the American Gas Association.

At present gas refrigerators and high quality gas ranges have been inadequately represented in coordinated kitchen units—a business already nominally successful where there is any volume of new building construction or remodelling. The assembled units usually reveal inadequate engineering guidance, making for functional deficiencies. The frequent use of substandard cooking equipment is sure to result in future trouble for the gas company. Component parts for the most part are bolted or rigidly assembled so that servicing is rendered difficult. Dimensions are generally inconsistent with those of standard equipment, permitting only replacement in kind.

In designing model units it is our purpose to establish standard dimen-

sions and make available a variety of good equipment, correlated in construction. Thus the architect can specify and the builder can purchase on a competitive basis an acceptable composite assembly providing only gas equipment meeting the highest standards of our industry.

The present effort has been enthusiastically received by builders and architects, it being our desire to offer the latter a complete kitchen planning consultation service. Those officially concerned with government housing projects have viewed the gas company efforts with approval. We find it necessary to caution architects to recognize minimum dimensions. Condensing kitchen space and kitchen equipment may be carried to an extreme, the results being an impractical creation, unsuitable for even the smallest family unit. It is felt by those of us who have studied the problem that a compact unit measuring seven feet in length is a practical limit if the equipment is to be arranged along a single wall. The five essential elements which must be included are: range—for cooking; sink—for preparation and cleaning; refrigerator—for food preservation; cabinet—for storage; table—for working space. All five must be present, although working space may be combined with a drainboard of sufficient size. The 7-foot lineal minimum might be shortened by utilization of the G300A under-counter model of the Electrolux refrigerator.

Cabinet manufacturers, particularly those working in wood, offer a high degree of cooperation, made possible by the extreme flexibility of their designs. More difficulty is naturally encountered among range manufacturers because of the great cost involved in making departures from stock patterns. Standard equipment as it is now designed is impracticable for use in compact kitchen units, and certain basic modifications must be made for the purpose.

With national building construction slowly recovering, demand for such appliances is certain to increase. Initial production costs, however, will be high, and the current market relatively restricted. Therefore, to encourage the manufacture and sale of this equipment, markup for the present should be on a promotional basis. By making such better units available at a price the builder can afford, the utilities will perform a signal service to their own and related industries.

Development of this composite kitchen can not be left to the manufacturers of the individual appliances with any assurance that the interests of the gas industry will be properly served. Kitchen equipment embraces distinct specialties, manufacturers of which are not in a position to properly relate to other units unless outside guidance is provided.

No longer can the gas range stand alone in the center of a wall. That space is too valuable. What happens to that space and to the gas range and other equipment in connection with it determines to a large extent what will ultimately happen to our kitchen load.

Seven Pacific Coast Companies Join Mystery Chef Series

SEVEN Pacific Coast gas companies, serving more than 900,000 meters, joined the "Mystery Chef" series on Wednesday, September 2. This was the first time the west coast audience had an opportunity to hear the program, which will continue to reach them for a thirteen-week period.

Although Pacific Coast gas companies have used radio on occasion, they have never before used a program originating in the east. With the Mystery Chef at the mike in the NBC studios in New York, as usual, the programs are being carried to the coast by transcontinental telephone in the interests of the following companies: Southern California Gas Company, Southern Counties Gas Company, and Los Angeles Gas and Electric Corporation, all of Los Angeles; Seattle Gas Company, Seattle, Washington; Washington Gas and Electric Co., Tacoma, Washington; Portland Gas and Coke Company, Portland, Oregon, and the Mountain Fuel Supply Company of Salt Lake City, Utah.

Two fifteen-minute broadcasts will be made a week, on Wednesday and Friday, 12:45 to 1 P.M., bringing the program to the Coast at 8:45 A.M. The following NBC-Red network stations are used: KDYL, Salt Lake City; KFI, Los Angeles; KGW, Portland; and KOMO, Seattle.

A change in the time of broadcast for the east went into effect on September 16 and will continue for eleven weeks. Now heard Wednesday and Friday, 10:30-10:45 A.M., the series have been switched to Tuesday and Saturday, 11:30-11:45 A.M.

With the addition of seven Pacific companies, 6,875,000 gas meters are represented by the broadcast series—45% of all domestic meters in use.

One hundred and thirty-six gas and gas and electric companies are now participating in this program, which is stimulating home cooking, building good will and providing lists of prospects for gas appliances. Since December 4, 1935, when the series started under the sponsorship of 87 companies from Washington, D. C., to Portland, Maine, from New York City to Buffalo, New York, 822,000 copies of "Be an Artist at the Gas Range" have been called for by listeners at the offices of the various companies.

2245 So. Beverly Glen Blvd.
West Los Angeles, Calif.

Dear Mystery Chef:

"Scotland for Ever" and welcome to the Pacific Coast. Your broadcast this morning was wonderful. I know you are going to make many friends out here. I have one of your first editions of your cook book and I depend on it for most of my cooking. I shall, however, get one of your new ones. Before I say another word I hope you remember me. I visited your home with my daughter Mrs. Beach in January. Have often longed for the recipe of the coffee cake you served that day. I hope it is in your new book.

I wish you all good luck and success on your nationwide work. You shall be a welcome visitor each time in my home. Regards to Mrs. Mystery Chef.

Sincerely,

Isabel K.

Out of The Mystery Chef's Mailbag

I want to let you know I received your wonderful book. As soon as I could get the things together I tried out your lemon meringue pie. My husband said it was the best he had ever tasted. I am satisfied now with this most wonderful help book of yours. My cooking cannot fail. If this was the only one I could get I don't think $10 could buy it. Now I want to thank you again and again for being the great help you are to me. You don't and won't know how I appreciate being able to get this gift from you. Words cannot tell.

Mrs. I. R., Atlantic City, N. J.

I have listened to your broadcasts for several years and my husband who has been my chef for many years ever since I lost my sight thinks there is no cook book like yours. I wish you very great success in the fine effort you are making to prove there is a real art in cooking.

Mrs. M. P., Phila., Pa.

Some days ago while touring through New York State, I tuned in on a program sponsored by the gas companies and presenting "The Mystery Chef." He offered to send his cook book and recipe for blueberry cream pie to those who would write in.

It was my impression that I heard the program over station WESG, Elmira, but they have written me saying that the program did not originate with them. I hope you can help me out. Will you give me an idea as to which station might have had it? It is really a matter of some importance. The recipe for blueberry cream pie was so delicious that my mouth has been watering ever since. I think about it, dream about it, and my household is so upset that the only hope I have for peace and the satisfaction of the craving for blueberry pie is to find "The Mystery Chef" and get his recipe.

C. B. N., Chicago, Ill.

Please allow me at this time to occupy a few of your most precious moments, to commend you upon your really and truly marvelous cook book "Be an Artist at the Gas Range." I have had dozens, yes, dozens of cook books from almost every source a cook book can be obtained, even paid a dollar for one, seeking recipes which are different but plain, wholesome and delicious. None have filled the bill until I received your "Be an Artist at the Gas Range."

Mrs. M. A. K., Phila., Pa.

I am a regular listener to your broadcasts and I want to thank you for the valuable help your recipes and advice have been to me. It is so easy to follow your clear, straight-forward directions and the recipes are grand. I have wished for a long time that I had your cook book so now at last I've gathered enough courage to write you and ask if you would send me a copy. Although I've used electricity in the past I find my gas stove more satisfactory and reliable.

E. B., Hamilton, Ontario.

Thank you for your fine cook book, far the best I have ever seen and I have had rows of them upon my pantry shelf. Your recipes differ from others in that they are beautifully simple, but most explicit and absolutely fool-proof.

Not only do I like your recipes but I like fully as well your remarks about your philosophy of life and your insistence upon the fact that excellent meals help in keeping up the morale of the home.

I believe, too, that a gas stove is most satisfactory for cooking. Of all fuels gas is by far the most satisfactory, as the heat is instantaneous and steady. The broiling oven insures a perfect steak.

Mrs. E. G. R., Norwich, Conn.

I have heard you talk so much about the gas heat controller that I went down to the gas company and bought one and I wouldn't go without it for all the money in the world. It makes things so convenient for me when I am busy with my other house duties.

I have also tried some of your delicious recipes and have had so many compliments from the family and dear friends of mine that I am so thankful to you for saving me from: "Oh gee, Ma, your cake hasn't any taste" or "Mother, what did you put in your roasting pot and how did you cook it? It was as tough as shoe leather." Thanks to you those days are all over.

Mrs. J. D., Worcester, Mass.

I wish to tell you how very much I enjoy your broadcasts. I have taken some of your recipes over the air as you have given them, and have tried them and they were splendid. One was your Quick Sponge Cake, and it was delicious. I use one of the insulated gas ovens and enjoy cooking much more since having it.

Mrs. E. S., Lowell, Mass.

Personnel Management To Be Discussed at Convention

THIS year, for the first time, an opportunity will be provided at an A. G. A. convention for executives concerned with personnel work to meet and discuss their problems. Under the auspices of the Committee on Personnel Practices a luncheon conference will be held at The Shelburne, Atlantic City, N. J., Tuesday, October 27, at 12:30 P.M. Eric A. Nicol, chairman of the committee and manager of personnel of The Philadelphia Gas Works Company, will preside at the conference.

Human relations is of recognized importance in industry generally. The fact that the gas industry organized the Committee on Personnel Practices and has provided a speaker for the general sessions on the subject is indication of the recognition of its importance by the industry. It is hoped the conference will serve to get those responsible for employment, training and personnel practices in gas companies acquainted and better organized to face the increasing importance of the problems in that field.

L. A. Appley, director of training of the Socony Vacuum Corporation, will be the guest speaker. Mr. Appley has a brilliant personality and will present an interesting and informative talk on the general subject of training in industry.

T. H. A. Tiedemann, president, Industrial Relations Counsellors, who has been invited to address the general session of the convention on Wednesday, October 28, will probably also speak to the Conference.

The training results in the Socony Vacuum Oil Company, Inc., have attracted considerable interest in personnel management circles. The activity is based on the conception that education and training is a very important function of the executive and supervisory force. The operations of the company cover most of the states in the United States and all countries of the world with the exception of Russia. Mr. Appley is in charge of the training activity for this entire area and has had considerable experience, both at home and abroad. It is expected that he will have some questions put to him at the conference which undoubtedly will bring out fundamentals and details that should be of interest to all.

Opportunity will be provided for discussion which is planned to be informal and spirited. No record of the proceedings will be kept and members may feel free to enter into discussions without reserve.

Reservations for the luncheon conference should be made by October 8 but not later than October 21. Attendance is limited. Tickets are $1.25 and will be issued in the order in which reservations are received. Make checks payable to the American Gas Association and send with applications to Kurwin R. Boyes, Secretary, American Gas Association, 420 Lexington Avenue, New York, N. Y.

Gas Furnaces Qualify for Close Control of Heat Treating

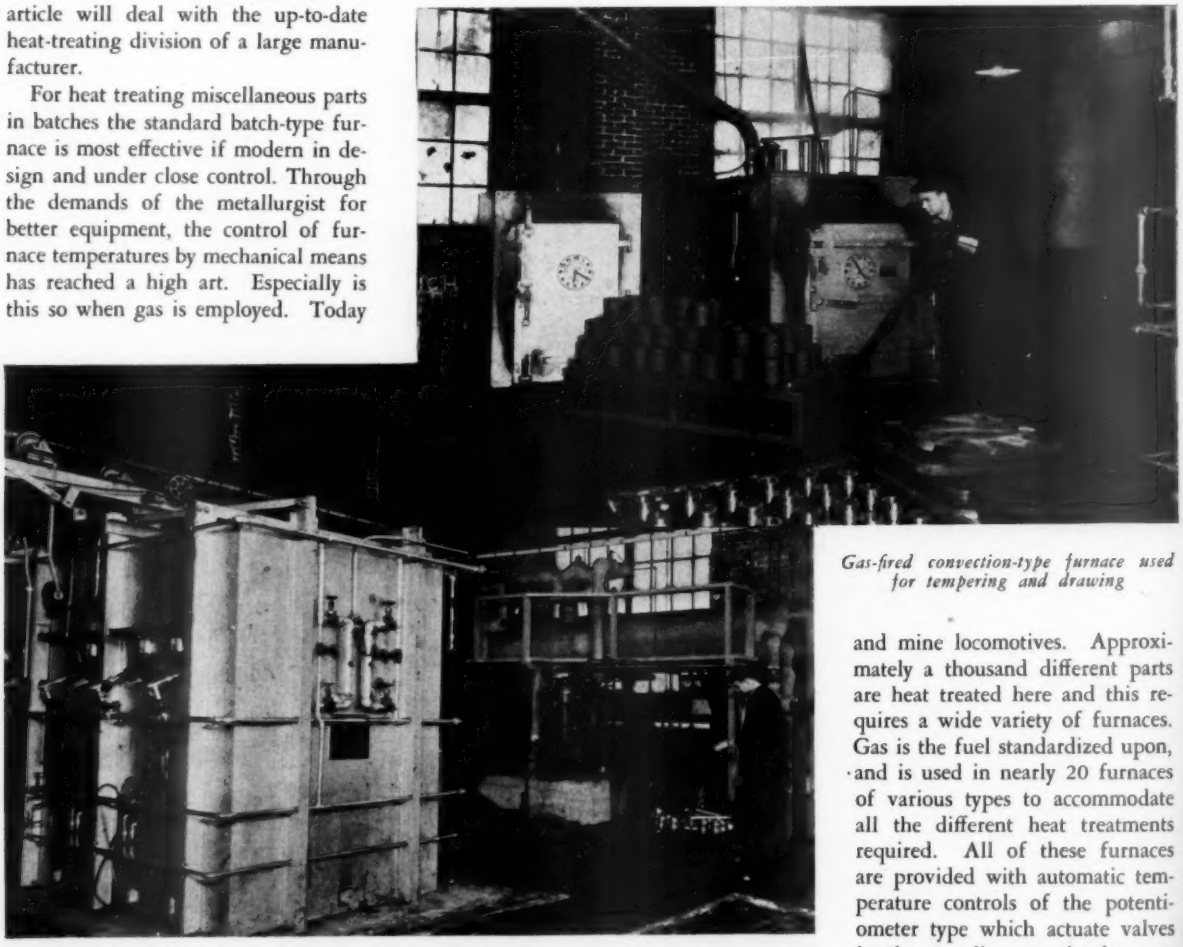
By J. B. NEALEY
American Gas Association

MORE gas is being sold to industry today than ever before in history. The reason for this is rapid and pronounced technical advance in the designing of better and more economical furnaces and control equipment. The gas utility today has the best tools it has ever had with which to go after business. Heat treating steel and alloy machine parts is one phase of industry that has come in for a full share of benefits from this technical advance. While lack of space prevents a description of the new continuous furnaces and controls this article will deal with the up-to-date heat-treating division of a large manufacturer.

For heat treating miscellaneous parts in batches the standard batch-type furnace is most effective if modern in design and under close control. Through the demands of the metallurgist for better equipment, the control of furnace temperatures by mechanical means has reached a high art. Especially is this so when gas is employed. Today fluctuations in temperatures are continually charted by recording pyrometers and this in turn provides a ready check on the actual control.

The basic principle of most controls in commercial use is the thermocouple and potentiometer actuating a valved means by which fuel flow to the burners is automatically interrupted when the desired temperatures are exceeded and restored after a sufficient drop. The actuating means between the potentiometers and valves are motors, solenoids and air or steam pressures by which the valves are turned on or off.

Out of this developed the low setting control by which the burners were not turned off completely and then came the modulating control by which the line on the chart was made almost straight. One of these latter controls has been designed and put into operation by the metallurgists of a concern manufacturing heavy mining machinery and mine locomotives. Approximately a thousand different parts are heat treated here and this requires a wide variety of furnaces. Gas is the fuel standardized upon, and is used in nearly 20 furnaces of various types to accommodate all the different heat treatments required. All of these furnaces are provided with automatic temperature controls of the potentiometer type which actuate valves in the gas lines to the burners. All the furnaces have recording



Rear view of gas-fired carbottom normalizing furnace. Refrigerating unit for cooling quenching mediums shown at right

Gas-fired convection-type furnace used for tempering and drawing

pyrometers and these are located on a panel in a central control room.

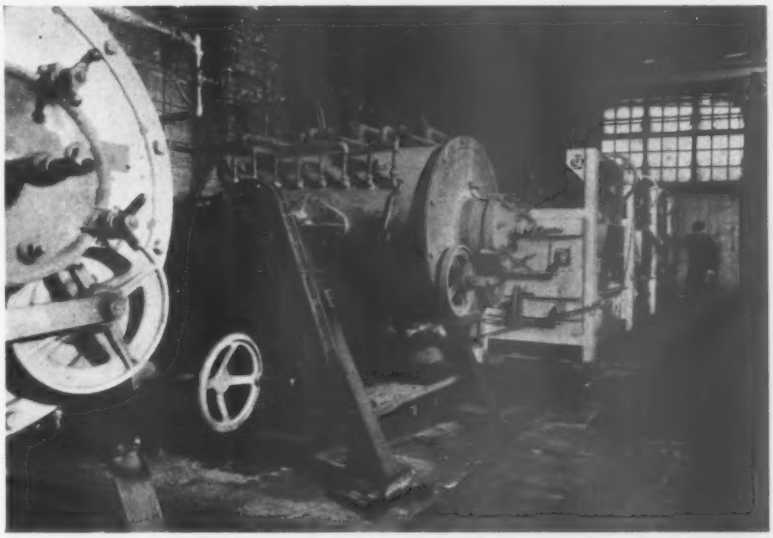
Modulating Control

The modulating control here holds furnace temperature fluctuations to within two degrees, in fact the chart is held to a straight line in many cases. This modulating control employs the difference in thermal expansion between two metal tubes, one within the other. The operating tube contains a resistance heater and is made to elongate with the heat therefrom. As the valve in the gas line is threaded into the movable end, it, in turn, is pushed away from the valve seat, permitting an increased flow of gas. The control instrument regulates the amount of heat and expansion of the expanding tube through a series of lamp resistances.

When the furnace is coming up to heat the full capacity of the burners is utilized. When about 30° below the desired temperature a percentage of the gas flow is shut off through the first stage operation of the expanding tube and valve seat. Within five degrees of the temperature, the fuel flow is reduced again through the second stage movement of the valve seat. At temperature a third movement of the valve seat cuts the fuel flow to the minimum allowed. Each bank of resistance lights is mounted on the control panel just above the corresponding recorder, so that the temperature condition of the furnace is always visible. This control has a wide range of usefulness extending from low heat ovens to high temperature furnaces.

Ovens Gas Fired

Among the furnaces and other heat treating equipment here is a most efficient and economical oven for tempering and drawing. This gas-fired unit utilizes the principle of mechanical convection by employing a rotary fan to drive heated air in and around the parts to be processed and to effect constant recirculation. There are two of these ovens which are built of sheet steel with 9 inches of insulation and they have a temperature range up to 1200° F. The larger is 6 ft. square and 3½ ft. high and will hold a 2,000 lb. load which is put in with a lift truck.



Two rotary retort carburizing furnaces, with several oven-type furnaces for miscellaneous heat treatments in the background. All are fueled with gas

Heat is supplied by two perforated gas pipe burners, one on each side of the bottom. The hot products of combustion rise through vertical ducts and are caught by the fan draft (there are two fans) at the top and forced down through the heating chamber. At the bottom the waste flows into the original ducts and mingles with the rising products of combustion to be reheated and recirculated. The other oven is similar but smaller (1,000 lb. capacity) and has a temperature range up to 800° F. Both are provided with automatic temperature controls of the type described.

There are five furnaces for carburizing and two of these are of the cylindrical rotary type. Either gas or a carburizing compound is used in the revolving retort to carburize the work. The gas burners are located in the outer shell and fire against the retort. The other three carburizers are of the pit type consisting of stationary, cylindrical retorts held in vertical gas-fired furnaces. The retorts are handled by an overhead crane.

For miscellaneous heat treatments there are five gas-fired oven type furnaces with a temperature range of 800-1800° F. of various sizes and they are constructed with 4½ in. of insulating firebrick and 5 in. of insulation. Heat is supplied by self-cooling tunnel-type burners with high pressure inspirator sets and firing against the arch, and two-stage high pressure burners underfiring the work, from both sides of each furnace. Both the temperature control and the gas-air proportioning controls are fully automatic and this allows close regulation and control over both furnace heats and furnace atmosphere. For rapid heating and high temperatures all the burners are used but for low temperatures and long holding periods the underfired burners are sufficient. These furnaces are used for treating ring and spur gears, spur and bevel pinions, bevel gears, sprockets and other machined parts. Some of these gears run up to 365 lbs. in weight each.

Time required to bring these furnaces from cold up to 1600 and 1700° F. ranges from 1¼ to 1½ hours while the gas consumption (800 B.t.u. gas) is 362 to 1,740 cu.ft. for different size furnaces. Thereafter only 51 to 163 cu.ft. of gas per hour is required to hold them at these temperatures. Approximately 160 cu.ft. of air per minute at 20 oz. pressure is required. The gas pressure is 20 lbs. The largest of these furnaces has a hearth area of 30 x 72 in.

For heating a 6,000-lb. load with 2,000 lbs. of supports to 1800° F. there are two gas-fired carbottom furnaces. The car top or hearth area of each is 3½ x 10½ ft. and the firing

system is similar to that described. This furnace requires about 6 hours' time and 8,800 cu.ft. of gas to bring it up to temperature from cold with charge and 435 cu.ft. of gas per hour thereafter. A cyanide pot for drawing pinions, studs, bolts, etc., is held in a furnace and it takes 45 minutes and 163 cu.ft. of gas to bring this up to 900° F. with a 300-lb. load and 65 cu.ft. per hour for holding.

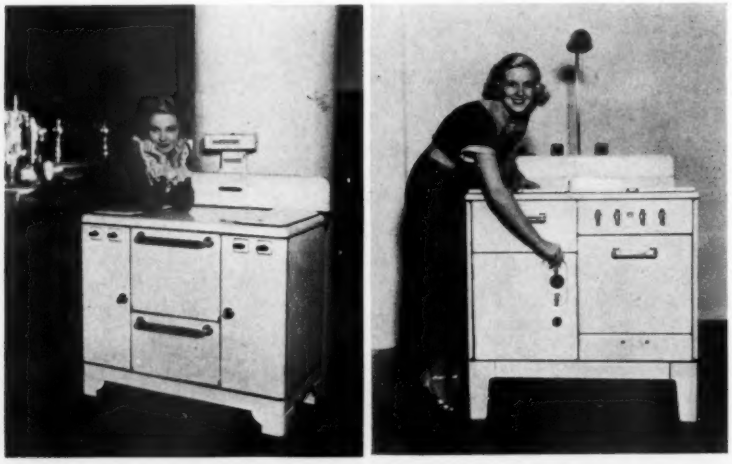
Most of the quenching is done in two steel tanks, one of 2,500 gal. capacity and for oil, and the other of 2,000 gal. capacity and for water. Outside and sunk in the ground below frost line are two reserve tanks, one for oil, 8,000 gal., and the other for water, 5,500 gal. There is a refrigerating system of the ammonia type for each consisting of a circular tank with ammonia pipes, through which the oil or water is circulated by pump. A single compressor rated at 30-ton ice capacity operates both. The water quench is kept at 60-65° F. and the oil at 80° F.

Gears of S.A.E. 2350 steel, drop forged, are heated in the carbottom furnace at 1600° F. and this is followed by an air quench. A load of, say, 5,000 lbs. is charged into the furnace and after it is up to heat, in about 2½ hours, it is allowed to soak for 2 or 3 hours. The car and load are then drawn from the furnace and the load allowed to cool to black, 800-1000° F., which requires another hour. Returned to the furnace, the work is reheated to 1450-1520° F. and soaked, the total time cycle requiring about 10 hours. The burners are then turned off and the charge allowed to cool over night in the furnaces. This leaves the gears with a very nearly 100% peralite grain structure and a 197-212 Brinell hardness.

After the teeth have been cut the gears are heated to 1430° F., quenched in oil and then drawn at 725° F. The final grain structure is troostite with a little martensite while the hardness is 415-444 Brinell.

Bevel gears (some 23 in. in diameter) are drop forged from S.A.E. 1045 steel. These are normalized as described and after machining are heated in the smaller furnaces to 1500-1520° F. and given a water, oil quench. First the teeth are quenched in a special fixture in water for 22 seconds and then the gears are immersed all over for 20 seconds, a total time period of 42 seconds. At this point they are transferred to the oil quench. Distortion is held within .010 in. out of round and this is exceptionally good considering the size of the gears. The gears are then drawn to a tooth hardness of 55-65 scleroscope and a hub hardness of 45-50. Because of the wide application of gearing, drawing temperatures range from 425° F. to 1200° F.

Gas Ranges Invade Hollywood



Pictured above in the company of modern automatic gas ranges, are Florence Rice and Dixie Dean, featured players in the Metro-Goldwyn-Mayer production "The Longest Night"

Karen Fladoes Heads Chicago Home Service

Miss Fladoes

THE appointment of Miss Karen Fladoes, well-known home service expert, to succeed Mrs. Anna J. Peterson as director of home service for The Peoples Gas Light and Coke Co., Chicago, has been announced by F. X. Mettenet, vice-president in charge of sales. Miss Fladoes left her position with the Equitable Gas Company of Pittsburgh on August 15 to join the Peoples Gas staff.

"Mrs. Peterson's ill health has finally forced us to appoint a successor to her position as home service director," said Mr. Mettenet. "And everybody in the gas company organization, as well as Mrs. Peterson's thousands of Chicago friends, can appreciate the difficulty of finding the right person to carry on the work in which she pioneered. We consider ourselves fortunate in having secured Miss Fladoes."

Mrs. Peterson, although confined to her home in Elgin by illness, will act as advisor to the new home service director.

Miss Fladoes comes to Peoples Gas at the height of a conspicuously successful career in the field of home economics. A graduate of Stout Institute, she did postgraduate work at Columbia University and then spent four years with the Washburn Crosby company as organizer of cooking schools. For the past nine years she has been home service director for the Equitable Gas Company, and during the last eight years she has made radio talks on that company's home service programs.

To the thousands of Chicago housewives who listen to home service broadcasts, call in for home economics advice, attend the cooking classes, and depend on home service for recipes and menus, Miss Fladoes will be known as "Martha Holmes."

McCarter Medals

THE name of John F. Van Nest, employee of the Public Service Corporation of New Jersey, gas department, Somerville, N. J., has been added to that growing list of those who have been honored by the gas industry for the saving of human lives. Mr. Van Nest has been awarded a McCarter Medal for his outstanding work in administering the prone pressure method of resuscitation to a person overcome by gas.

Presentation of the medal took place at the Somerville gas distribution headquarters, Wednesday, September 9, in the presence of fellow employees. F. A. Lydecker, general superintendent of gas distribution, made the presentation. John M. Orts, director of safety education, was present to congratulate Mr. Van Nest on his achievement.

Elected Vice-President of Brooklyn Union

Hugh Cuthrell

HUGH H. CUTHRELL, formerly new business manager of The Brooklyn Union Gas Co., Brooklyn, N. Y., who on January 23, last, was elected assistant vice-president, was made vice-president in charge of sales at a meeting of the Board of Directors held on August 27.

Two other changes affecting officers of the company were made at the meeting. Morton O. Davis, who since 1925 has been assistant treasurer, was elected assistant treasurer in charge of credits, and Charles H. Cleaveland, who joined the company on June 29, 1931, as a cadet engineer, was elected assistant treasurer.

Mr. Cuthrell, who is active in American Gas Association affairs, entered the company in May, 1927, as engineer's assistant. Two years later, in May, 1929, he was transferred to the New Business Department, becoming acting manager of that department the following October. In May, 1930, he was appointed manager.

Mr. Davis first entered the company's employ on January 23, 1911. On March 13, 1913, he was assigned to the Treasury Department. On February 28, 1920, Mr. Davis was made second assistant treasurer, and on January 22, 1925, he was elected assistant treasurer. Since that time he has made a special study of credits.

As assistant treasurer in charge of credits, Mr. Davis will centralize the credit direction, not only as regards appliance sales but also as to gas sales and their relation to customers' deposits. Through the medium of a central credit bureau, he will coordinate the credit procedure throughout the company.

Mr. Cleaveland was graduated from Lehigh University in June, 1931. While at the university he had specialized in business administration, economics and banking. On June 29 immediately following his graduation, he entered the company as a cadet engineer. The next four years he spent working in and studying the work of the various departments. In August, 1935, he was assigned to the Treasury Department, where he now assumes new responsibility as assistant treasurer.

J. M. Krappe Joins Purdue University Staff

JUSTUS M. KRAPPE, assistant utilization engineer of the American Gas Association, will leave during the first week of October for Purdue University, Lafayette, Ind., where he will take up his new duties as associate on the research staff of the gas engineering experiment station. His full time will be devoted to research work to increase and improve gas utilization.

Recommended by Major Forward, managing director of the Association, to Dean A. A. Potter of the Engineering School and J. H. Bray of the Chemical Engineering Department, Mr. Krappe was called to Purdue University, September 14, for an interview and subsequently notified of his appointment.

Mr. Krappe, who received his B.A. from Columbia in 1928 and his B.S.M.E. from New York University in 1936, came to the Association in 1928. He has served on the Committee on Gas Appliance Service Manuals, and carried on important work in the preparation of industrial series books and industrial service letters.

Byllesby Changes Name, Elects Lynch Head

DIRECTORS of Byllesby Engineering and Management Corporation changed the company name to Public Utilities Service Corporation and elected B. W. Lynch president to succeed the late John J. O'Brien, former president of Byllesby. Mr. Lynch is also president of Standard Gas and Electric Company.

The company was organized in 1919 to render engineering service to utility companies and in 1935 was sold by Standard Gas to the units it served. The change in name was made to distinguish it from H. M. Byllesby & Co., investment banking house.

GAS OR ELECTRICITY?

"It is not a question if gas or electricity will be demanded in the future. Everyone who has really studied the subject knows very well the public in the future will demand both gas and electricity."—E. J. Fottrell (Great Britain) at World Power Conference.

Convention Calendar

OCTOBER

1-2 Empire State Gas & Electric Association
Saranac Inn, N. Y.

2-3 Operating Division, New England Gas Association
Hotel Bond, Hartford, Conn.

3-6 British Commercial Gas Association
Bath, England

5-9 National Restaurant Exposition*
Chicago, Ill.

15 Accounting Division, New England Gas Association
Narragansett Hotel, Providence, R. I.

18-19 Accounting Section, Wisconsin Utilities Association
Lawsonia Hotel, Green Lake, Wisc.

19-23 American Society for Metals, National Metal Exposition*
Cleveland, Ohio

25-30 AMERICAN GAS ASSOCIATION CONVENTION
Municipal Auditorium, Atlantic City, N. J.

25-30 Association of Gas Appliance and Equipment Manufacturers Convention and Exhibition of Gas Appliances and Equipment
Atlantic City, N. J.

Wk. 26 National Hotel Exposition*
New York, N. Y.

* Includes exhibit sponsored by A. G. A. Industrial Gas Section.

NOVEMBER

9-12 American Petroleum Institute
Stevens Hotel, Chicago, Ill.

DECEMBER

7-8 National Industrial Council—National Association of Manufacturers
Waldorf Hotel, New York, N. Y.

9-10 National Association of Manufacturers
Waldorf Hotel, New York, N. Y.

1937

JANUARY

25-27 American Society of Heating & Ventilating Engineers
Hotel Statler, St. Louis, Mo.

Accounting Section

F. L. Griffith, Chairman H. W. Hartman, Secretary E. J. Tucker, Vice-Chairman

Analysis of Customers' Paying Habits

By GEORGE B. WEBBER

Public Service Electric and Gas Company, Newark, N. J.

A STUDY was made during the month's period from December 7, 1935, to January 6, 1936, of the paying habits of 192,000 customers in one of the districts of a large gas and electric company. All classes and types of customers from wealthy to poor, and from large to small users are included in the district. The analysis had these purposes:

1. To determine the number of cash transactions in a month's business.
2. To determine what percentage of the total payments came through the mail, the cashier's window, and the collection representatives.
3. To determine the method of payment most acceptable to customers in each of the routes.
4. To make certain that field man-power is properly adjusted to the needs of the routes.
5. To study the effect of distance from the office on customers' paying habits.

Cashiers' coupons were used as the basis for the analysis. Distinction is made easily between payments sent in by mail, those received through the cashier's window, and those brought in by collection representatives. A different method of receipting is used for each channel. The number of transactions were considered without reference to the amounts involved. The analysis was made just after the daily cash posting operation. Figures were tabulated each day for each of the 21 divisions into which the district is divided.

The accompanying table shows the monthly analysis for each of the 21 divisions, and is of value because it shows the variation in methods of paying in the many divisions.

Results

During the month, 151,000 payments, or 79%, were received on the 192,000 accounts. This checks with an outstanding at the end of the month of 20% of the previous month's sales. Part payments and double payments account for any discrepancy.

Payments for the district as a whole came through these sources:

21,677 payments, or 15% of the total came through the mail.

59,996 payments, or 40% of the total were paid in the office.

69,514 payments, or 45% of the total were paid to the field representatives.

The surprisingly large number of field payments may be due to the fact that the 2-call collection service on current as well as delinquent accounts has been accepted by a large percentage of customers.

The percentage of payments coming through the mail varied from 25% to 7%. Route 19 showing 25% includes a high class residential area some 5 miles from the office. Route 6, showing 7% is a rather poor district located fairly close to the office. Few people in this district would have checking accounts.

Payments received by cashier varied from 48% to 27%. Route 9 showing 48% is an apartment house section located within walking distance of the office. It is quite probable that the women folks often walk to the office. Route 19, showing 27%, is the district that showed a large number of payments through the mail, and being quite some distance from the office, not many office payments would be expected.

Payments brought in by field representatives varied from 58% to 38%. Route 2, showing 58%, is a fairly good residential suburb. There is no evident reason why more of the money on this route should not come through the mail. Route 5, showing 38%, is a fairly good residential section where field coverage is not so essential. In fact, the number of field collections from this area was surprisingly large.

Considerable insight into the paying habits of customers in the different districts of the city is furnished by these figures. In addition, many questions are raised as to why certain districts, similar in outward appearance, show such differences in paying habits. It is planned to investigate the reason, to determine whether it is due to the man on the territory, or the use of too much man-power in one district compared to another.

Adjustment of Man-Power

This type of analysis will be of value from month to month in determining the effect of the addition or withdrawal of man-power in a division. As more man-power in the form of field collection coverage is added, the percent collected in the field increases, even at the expense of many customers who would prefer to mail or bring payment to the office. The opposite is also true. As help is withdrawn, the number of collections brought in by the field decreases. Many of the customers can be sold the idea of mailing or bringing it in. Others will not pay until they have to. This analysis, made monthly enables man-

DISTRICT ANALYSIS OF PAYMENT SOURCES

Division	*Mail* No.	%	*Cashier* No.	%	*Field* No.	%	*Total*
1	1,145	16	2,812	39	3,020	45	6,977
2	678	10	2,200	32	3,973	58	6,851
3	1,287	15	3,425	40	3,898	45	8,610
4	1,670	22	2,792	36	3,193	42	7,655
5	1,346	19	3,101	43	2,742	38	7,189
6	481	7	3,415	47	3,425	46	7,321
7	741	11	2,812	41	3,258	48	6,811
8	1,119	22	2,060	40	2,006	38	5,185
9	730	11	3,206	48	2,832	41	6,768
10	813	11	3,210	44	3,254	45	7,277
11	1,199	13	3,805	43	3,903	44	8,907
12	940	11	3,081	36	4,479	53	8,500
13	1,047	14	3,539	46	3,114	40	7,700
14	895	11	3,721	46	3,468	43	8,084
15	1,166	16	2,617	35	3,681	49	7,464
16	1,309	18	3,115	43	2,916	39	7,340
17	928	14	2,576	39	3,105	47	6,609
18	1,264	22	1,635	28	2,863	50	5,762
19	1,422	25	1,572	27	2,725	48	5,719
20	559	7	3,134	41	4,016	52	7,709
21	938	14	2,138	32	3,643	54	6,719
Totals	21,677	15	59,966	40	69,514	45	151,157

Contributed by the Office Management Committee, Wesley N. Geiter, Chairman.

agement to diagnose the effect of varying field coverage in an area so that the best possible balance may be attained.

Distance from the office made not as much difference as had been expected. Routes 1, 2, 19, 20, and 21 are farthest from the office, and while they all show a higher percentage of collection brought in by the field representative, the difference is not marked.

This simple analysis has been of considerable value in adjusting field collection effort to the needs of the district. It is expected that continued use will show a way to improve customer relations and to lower costs.

Summer Budget Plan

TO save its customers the burden of heavy winter gas bills, the Portland Gas & Coke Co., Portland, Ore., is offering gas users a new summer budget plan in which deposits are made during the five summer months from June through October to be credited against the heavier winter bills from November through April. The plan not only evens up the distribution of the family budget throughout the year, but also enables the budget plan buyer to save 6 per cent on his summer deposits.

Most practical method of using the plan, according to B. H. Parkinson, commercial manager of the company, is for the customer to buy a summer budget that is not less than one-third nor more than one-half of the total heating bill. Summer budgets with a credit value of 15, 30, 45, and 60 dollars are for sale at 14, 28, 42, and 56 dollars. Unused credit in any month is not applied to the succeeding month, but is carried to the end of the heating season, when a rebate less 6 per cent is made to the customer.

Study Reveals Market for Gas Facilities

THAT there is a need for electrical and gas facilities and hot water installations in many residential units throughout the United States is indicated in the study just made available by the Bureau of Foreign and Domestic Commerce, Department of Commerce, recording the lack of such facilities in many of the 2,633,135 residences in 64 selected cities reported upon in the study.

The use of electricity for lighting predominates throughout the 64 cities included in the study. Over 90 per cent of the total dwelling units used electricity for lighting, .2 per cent utilized gas and 9 per cent depended upon "other" fuel.

On the other hand, gas was the dominant fuel used for cooking, 69 per cent of all dwellings had gas cooking facilities, 27 per cent used "other" fuel, while only 4 per cent used electricity for this purpose.

Approximately 17 per cent of the residential units, for which information was recorded, had mechanical refrigeration. The study also reveals that 25 per cent of the total dwelling units reported upon had only cold water facilities, while about 66 per cent were equipped with both hot and cold water facilities.

The importance of the figures obtained is enhanced when they are broken down by cities proper and environs because they are of concrete use to the local merchant as well as to the manufacturer and others in the gas household appliances and facilities industry. The number of homes piped for gas and running water, buying power of consumer (as indicated by rental charges), all pertinent to the development of a local gas appliance market are shown in the study.

The number of owner-occupied homes and rented homes of various rental groups, as well as single-family and multiple-family units, are given. These factual data generally indicate the latent demand for not only lighting and cooking with electricity, gas, or "other fuel," ranges and fixtures, but also for numerous other household appliances.

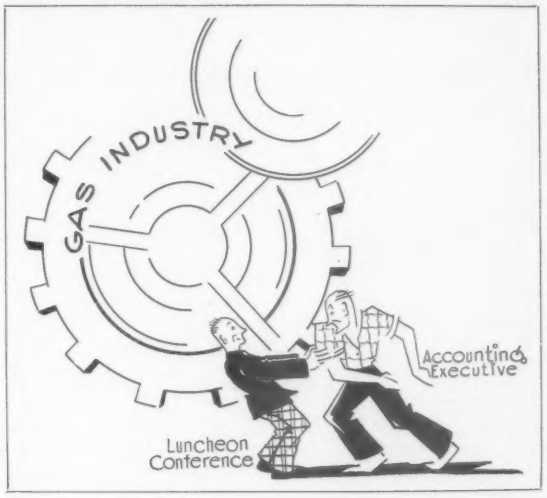
The title of the study is "Markets for Electrical and Gas Facilities in Residences," Market Research Series No. 11. Copies may be had at 10 cents each upon application to the Bureau of Foreign and Domestic Commerce, Department of Commerce, Washington, D. C.

Robert W. Bush Dies

ROBERT W. BUSH, retired consulting engineer and one of the oldest members of the Society of Gas Lighting, died August 6.

At the time of his retirement on January 1, 1928 Mr. Bush was consulting engineer for The Brooklyn Union Gas Company, Brooklyn, N. Y. Born in 1864, he had joined the Brooklyn Union in 1893. For some years he held the position of engineer of manufacture in that company.

General Accounting Group To Hold Luncheon Conference



THE general accounting executive of today is passing through a period during which his mind must be ever alert to the additional duties which are being directed at him from every angle. Federal, State and Municipal authorities have seen fit to bring about changes which result in burdens which have never before entered into one's wildest dreams. The economic situation of the past several years has also added materially to the problems which arise in the accounting department.

But we accountants in the gas industry have quite an advantage over our fellows in other lines of business. Problems may be overcome to a large extent through the various contacts which are available in the Accounting Section of the American Gas Association. Of very material benefit are the meetings of the Section at the annual convention, not the least of which are the luncheon conferences.

The general accounting luncheon conferences of the past few years were a huge success in many ways. Their informal atmosphere has added considerably to their worth as sources of accounting information and the subjects discussed have been ably handled.

The conference to be held at the Ritz-Carlton in Atlantic City on October 28, 1936, will be bigger and better than those held in the past. Opportunity will be presented to discuss those subjects which deal with requirements imposed by the various national agencies as well as those accounting problems which are peculiar to the gas industry itself.

Come and bring your questions with you. You will leave with a greater knowledge of the subjects which are considered and will have enjoyed a period which could not be spent to better advantage, both to yourself and to your company.

By Wm. F. R. Munnich
Philadelphia Electric Company.

Commercial Section

C. E. Bennett, Chairman J. W. West, Jr., Secretary F. M. Banks, Vice-Chairman

Prize Winners Announced in Second National Gas Range Sales Contest

R. J. Rutherford

WINNERS in the Second National Gas Range Sales Contest, which closed on July 31, have been notified by R. J. Rutherford, chairman of the Domestic Range Committee of the Commercial Section, which sponsored and conducted the 1936 program to sell modern gas ranges.

By the time the last award check has been forwarded to the winners, $12,675 will have been awarded to those salesmen and companies which sold the greatest dollar value of modern gas ranges in their respective competing groups. There were 48 company prizes—18 for the companies selling the greatest dollar value of modern gas ranges during the selected two months' period, 18 for companies making the best records during the full six months' contest period, and 12 prizes for those companies making the best records in the sale of automatic oven lighting ranges and time clock control ranges during the contest period.

Cash Prizes

In addition, a total of 540 $10 awards, or 90 prizes each month, were won by the individual salesmen selling the greatest dollar value of contest type ranges, and 90 awards of $25 to salesmen making the best six months' records.

The 1936 contest was an elaboration of the First National Gas Range Sales Contest held during 1935. In that contest each registered gas company selected two months from the four months of March, April, May and June, in which it competed for prize awards. In the contest just closed, each company was again permitted to select two months for intensive campaigning and also competed with others during the entire six months' period. In addition, its individual salesmen were eligible for monthly prize awards.

The following salesmen won $25 each for making the best dollar sales records of modern gas ranges during the entire six months' period of the Contest:

DIVISION I

Ben Gude, South End Hardware Company, St. Louis, Mo. *(The Laclede Gas Light Co.).*
L. Rice, Cooper's Hardware Company, Los Angeles, Calif. *(Southern California Gas Co.).*
George Schumacher, Milwaukee Gas Light Co., Milwaukee, Wis.
Fred Fuller, Riverside Gas Appliance Co., Los Angeles, Calif. *(Southern California Gas Co.).*
A. Arnold, People's Outfitting Co., Los Angeles, Calif. *(Southern California Gas Co.).*
O. Dayton, Milwaukee Gas Light Co., Milwaukee, Wis.
Geo. Simpson, Simpson Furniture Co. (Van Nuys) Los Angeles, Calif. *(Southern California Gas Co.).*
Dan McEwen, Dan McEwen (Redlands), Los Angeles, Calif. *(Southern California Gas Co.).*
Geo. Seeley, Geo. Seeley Furniture Co. (Glendale), Los Angeles, Calif. *(Southern California Gas Co.).*
Harry Cohen, Cohen Furniture Co. (San Bernardino), Los Angeles, Calif. *(Southern California Gas Co.).*
R. C. Hughey, Vermont Plumbers No. 2, Los Angeles, Calif. *(Southern California Gas Co.).*
C. Kalb, H. & S. Pogue Co., Cincinnati, Ohio *(Cincinnati Gas & Electric Co.).*
E. D. Wiseman, Sears-Roebuck Co., Cincinnati, Ohio *(Cincinnati Gas & Electric Co.).*
H. F. Nolting, Rollman & Sons Co., Cincinnati, Ohio *(Cincinnati Gas & Electric Co.).*
J. Robbins, Sears-Roebuck Company, Cincinnati, Ohio *(Cincinnati Gas & Electric Co.).*

DIVISION II

Ted Allen, A. Polsky Co., Akron, Ohio *(The East Ohio Gas Co.).*
M. Olden, M. O'Neil Co., Akron, Ohio *(The East Ohio Gas Co.).*
C. Elderkin, M. O'Neil Co., Akron, Ohio *(The East Ohio Gas Co.).*
P. Coe, M. O'Neil Co., Akron, Ohio *(The East Ohio Gas Co.).*
Marion Hulst, Citizens Gas & Coke Utility, Indianapolis, Ind.
C. Hughes, The Elder & Johnston Co., Dayton, Ohio *(The Dayton Power & Light Co.).*
Louisa Swengel, Citizens Gas & Coke Utility, Indianapolis, Ind.
L. Hoisington, M. O'Neil Co., Akron, Ohio *(The East Ohio Gas Co.).*
Mr. Baker, Titche-Goettinger Co., Dallas, Tex. *(The Dallas Gas Co.).*
Bessie Winters, Daniels & Fisher, Denver, Colo. *(Public Service Co. of Colo.).*
W. D. Armatage, Citizens Gas & Coke Utility, Indianapolis, Ind.
C. Portney, May & Co., Dayton, Ohio *(The Dayton Power & Light Co.).*
Theo. Longley, Sears-Roebuck Co., Dallas, Texas *(The Dallas Gas Co.).*
W. Friedman, Akron Furniture Co., Akron, Ohio *(The East Ohio Gas Co.).*
Frank Mullen, Daniels & Fisher, Denver, Colo. *(Public Service Co. of Colo.).*

DIVISION III

J. C. Adolphus, Loveman, Joseph & Loeb, Birmingham, Ala. *(Birmingham Gas Co.).*
Edna E. Murray, Delaware Power & Light Co., Wilmington, Del.
William J. Frame, Delaware Power & Light Co., Wilmington, Del.
A. B. Apperheimer, Lowenstein Bros., Memphis, Tenn. *(Memphis Power & Light Co.).*
J. C. Gold, Birmingham Gas Co., Birmingham, Ala.
Billy Dolph, The Harrisburg Gas Co., Harrisburg, Pa.
W. E. Chalton, Dominion Natural Gas Co., Ltd., Buffalo, N. Y.
R. S. Culver, Dominion Natural Gas Co., Ltd., Buffalo, N. Y.
D. L. Evans, Goldsmiths, Memphis, Tenn. *(Memphis Power & Light Co.).*
W. C. Woods, Dominion Natural Gas Co., Ltd., Buffalo, N. Y.
W. Smith, Consumers Power Co., Pontiac, Mich.
C. W. Lorenzen, Lynn Gas & Electric Co., Lynn, Mass.
D. D. Hall, Dominion Natural Gas Co., Ltd., Buffalo, N. Y.
J. Setchfield, Hubbard Hardware Co., Flint, Mich. *(Consumers Power Co.).*
M. F. Lopez, Arlington Gas Light Co., Arlington, Mass.

DIVISION IV

B. K. Pond, Better Housekeeping Shop, Saginaw, Mich. *(Consumers Power Co.).*
S. F. Colvin, Montana-Dakota Utilities Co., Minneapolis, Minn.
C. M. Fletcher, Rosslyn Gas Co., Clarendon, Va.
Clyde Wright, Gary Heat, Light & Water Co., Gary, Ind.
R. T. Bennett, Montana-Dakota Utilities Co., Minneapolis, Minn.
J. J. Mulcahy, The Newport Gas Light Co., Newport, R. I.
W. J. McDonald, Montana-Dakota Utilities Co., Minneapolis, Minn.
J. F. Flynn, South Carolina Power Co., Charleston, S. C.
C. S. Waters, Morley Brothers, Saginaw, Mich. *(Consumers Power Co.).*
M. J. Benjamin, Peoples Gas Co., Glassboro, N. J.
R. Castner, Portland Gas Light Co., Portland, Me.

Wm. Strayer, Central Illinois Light Co., Springfield, Ill.
G. A. Tribby, Rosslyn Gas Co., Clarendon, Va.
O. B. Fickle, Florida Power & Light Co., Miami, Fla.
H. C. Lewis, Portland Gas Light Co., Portland, Me.

DIVISION V

H. S. Richardson, Wisconsin Fuel & Light Co., Manitowoc, Wis.
A. J. Gallagher, Wisconsin Fuel & Light Co., Manitowoc, Wis.
G. M. Quick, Missouri Natural Gas Co., Farmington, Mo.
H. D. Boyd, Missouri Natural Gas Co., Farmington, Mo.
Wm. J. Tonahill, Jr., Palestine Light, Heat & Power Co., Palestine, Tex.
John Fleming, Consumers Power Co., Alma, Mich.
J. A. Williamson, Alexandria Gas Co., Alexandria, Va.
George A. Latimer, New York State Elec. & Gas Corp., Cortland, N. Y.
R. A. Bowman, Alexandria Gas Co., Alexandria, Va.
J. H. Coleman, Cheyenne Light, Fuel & Power Co., Cheyenne, Wyo.
Victor T. Kennedy, Rochester Gas & Electric Corp., Canandaigua, N. Y.
K. J. Roeder, Missouri Natural Gas Co., Farmington, Mo.
O. Grabb, Empire Gas & Electric Co., Newark, N. Y.
H. W. Crawford, Crawford Co., Breckenridge, Tex. *(Community Public Service Co.)*.
Robert Cowardin, W. P. Dabney & Son, Jackson, Tenn. *(West Tennessee Power & Light Co.)*.

DIVISION VI

H. Nantkes, Central Electric & Telephone Co., Sioux City, Ia.
J. L. C. Black, Anderson Gas & Utilities Co., Anderson, S. C.
A. P. Norris, New York Central Electric Corp., Penn Yan, N. Y.
J. F. Whitney, Sumter Gas and Power Co., Sumter, S. C.
Ray R. Heaster, Crisfield Light & Power Co., Crisfield, Md.
E. F. Luedtke, Hutchinson Gas Co., Hutchinson, Minn.
H. N. Hoaglund, Willmar Gas Co., Willmar, Minn.
Harrison C. Gorman, Nantucket Gas & Electric Co., Nantucket, Mass.
A. L. Lindblad, Willmar Gas Co., Willmar, Minn.
C. A. Patterson, Public Service Co. of Colo., Denver, Colo.
Franklyn Dennis, The Eastern Shore Gas Co., Pocomoke City, Md.
Bert Skappel, Hutchinson Gas Co., Hutchinson, Minn.
A. T. Thawley, The Eastern Shore Gas Co., Pocomoke City, Md.
M. F. Campbell, Public Service Co. of Colo., Brighton, Colo.
Alfred Johnson, Willmar Gas Co., Willmar, Minn.

The following 18 gas companies won prizes varying from $25 to $175 for making the best two months' records during the 1936 Contest:

DIVISION I

United Gas Public Service Co., Houston, Tex.
The Laclede Gas Light Co., St. Louis, Mo.
Cincinnati Gas & Electric Co., Cincinnati, Ohio.

DIVISION II

The East Ohio Gas Co., Akron, Ohio.
The Dayton Power & Light Co., Dayton, Ohio.
Atlanta Gas Light Co., Atlanta, Ga.

DIVISION III

Memphis Power & Light Co., Memphis, Tenn.
Dominion Natural Gas Co., Ltd., Buffalo, N. Y.
Union Light, Heat & Power Co., Covington, Ky.

DIVISION IV

Peoples Natural Gas Co., Omaha, Neb.
Mississippi Power & Light Co., Jackson, Miss.
Houston Natural Gas Co., Houston, Tex.

DIVISION V

Missouri Natufal Gas Co., Farmington, Mo.
Wisconsin Fuel & Light Co., Manitowoc, Wis.
Tyler Gas Service Co., Tyler, Tex.

DIVISION VI

Hutchinson Gas Co., Hutchinson, Minn.
Central Electric & Telephone Co., Sioux City, Ia.
Willmar Gas Co., Willmar, Minn.

The 18 high ranking companies making the best dollar sales records of modern gas ranges during the six months' contest are given below; prizes varying from $50 to $350 according to the size of the company:

DIVISION I

United Gas Public Service Co., Houston, Tex.
Southern California Gas Co., Los Angeles, Calif.
Cincinnati Gas & Electric Co., Cincinnati, Ohio.

DIVISION II

Dayton Power & Light Co., Dayton, Ohio.
Atlanta Gas Light Co., Atlanta, Ga.
Dallas Gas Co., Dallas, Tex.

DIVISION III

Memphis Power & Light Co., Memphis, Tenn.
Union Light, Heat & Power Co., Covington, Ky.
Dominion Natural Gas Co., Ltd., Buffalo, N. Y.

DIVISION IV

Mississippi Power & Light Co., Jackson, Miss.
Rosslyn Gas Co., Clarendon, Va.
Peoples Natural Gas Co., Omaha, Neb.

DIVISION V

Missouri Natural Gas Co., Farmington, Mo.
Minnesota Northern Natural Gas Co., Omaha, Neb.
Wisconsin Fuel and Light Co., Manitowoc, Wis.

DIVISION VI

Hutchinson Gas Co., Hutchinson, Minn.
The Keystone Gas Co., Inc., Binghamton, N. Y.
Willmar Gas Co., Willmar, Minn.

Special prizes varying from $50 to $150 were presented to the six companies selling the greatest number of automatic oven lighting ranges and time clock control ranges. Winners in these groups were:

Automatic Oven Lighting Ranges

Division I, Southern California Gas Co., Los Angeles, Calif.
Division II, Providence Gas Co., Providence, R. I.
Division III, Lowell Gas Light Co., Lowell, Mass.
Division IV, Old Colony Gas Co., East Braintree, Mass.
Division V, Southern Union Gas Co., Bellville, Tex.
Division VI, New York Central Electric Corp., Penn Yan, N. Y.

Time Clock Control Ranges

Division I, Southern California Gas Co., Los Angeles, Calif.
Division II, Providence Gas Co., Providence, R. I.
Divison III, The Harrisburg Gas Co., Harrisburg, Pa.
Division IV, Old Colony Gas Co., East Braintree, Mass.
Division V, Central Pennsylvania Gas Co., Bellefonte, Pa.
Division VI, New York Central Electric Corp., Penn Yan, N. Y.

All gas company winners were selected on the basis of the dollar value of modern gas ranges sold per 100 domestic meters. All winning salesmen were selected on the basis of the total dollar value of ranges sold without regard to the number of meters.

While it is not possible to compare the entire results of the 1936 Contest with the previous one, both contests included prizes for best records made during a selected two months' period. In practically every case the companies winning prizes during 1936 showed a large increase in dollar value of ranges sold over the prize winning companies in 1935.

More than 250 companies were registered in the contest, which was underwritten jointly by the American Gas Association and the following range and range accessory manufacturers:

Gas Range Manufacturers

Andes Range & Furnace Corporation.
American Stove Company.
Cribben and Sexton Company.
Detroit-Michigan Stove Company.
Estate Stove Company.
Glenwood Range Company.
James Graham Manufacturing Company.
Globe American Corporation.
Majestic Manufacturing Company.
Moore Corporation.
Roberts and Mander Stove Company.
George D. Roper Corporation.
Standard Gas Equipment Corporation.
Tappan Stove Company.

Accessory Manufacturers

American Thermometer Company.
Grayson Heat Control, Inc.
International Nickel Company.
Lux Clock Manufacturing Company.
Patrol Valve Company.

(Continued on page 371)

Industrial Gas Section

Charles W. Gale, Chairman Eugene D. Milener, Secretary Ralph L. Manier, Vice-Chairman

A. G. A. To Exhibit at Three National Business Shows in October

THREE great heat using industries are massing for their national conventions and shows during the month of October. These gatherings are of the utmost importance to the gas utilities and appliance manufacturers in their efforts to get the story of gas and gas equipment across to these industries. First comes the National Restaurant Association's Convention and Exposition in Chicago, October 5-9, then the National Metal Exposition, held in conjunction with the National Metal Congress under the auspices of the American Society for Metals and seven other metal societies, in Cleveland, October 19-23, and finally the National Hotel Exposition in New York, October 26-30.

These conventions and expositions bring large numbers of business men together, thus affording a chance to show and demonstrate the advantages of gas service through the latest and most modern appliances. This is all the more important now that we are definitely coming out of the depression and our position has been improved to the point where we are now selling more industrial and commercial gas than ever before in history and have the most up-to-date appliances we have ever been able to offer.

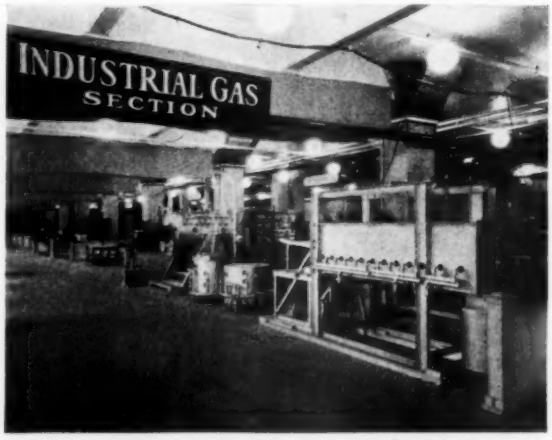
Space Reserved for Gas

The Display and Contact Committee of the Industrial Gas Section, Karl Emmerling, Cleveland, chairman, has arranged to take space in all three of these shows on behalf of the gas industry as a whole. The exhibits are to be held in three of the most prominent display buildings in America—the Grand Central Palace in New York, the great Furniture Mart Building in Chicago and the Display Hall of the Municipal Auditorium in Cleveland. Unusually favorable positions for the gas displays have been reserved in all three of these shows.

The gas companies in the territory contingent to Cleveland are cooperating with the American Gas Association in financing the industrial gas exhibit at the Metal Show to make it an outstanding success. The Peoples Gas Light & Coke Company of Chicago with Thomas J. Gallagher in charge, is assisting in the finance, decoration and manning of the gas section at the Restaurant Show in that city. In New York, Consolidated Edison Company of New York with Ray Martin in charge is affording the same services.

The largest section of the Metal Show will be the Industrial Gas Exhibit. This is cooperative and will be participated in by a number of manufacturers. One large unit of floor space has been retained in the main section of the Public Auditorium and the individual exhibits are grouped around a roomy and attractive lounge reserved by the American Gas Association. The layout is specially designed with an idea to spaciousness and high visibility. Those interested in industrial heating equipment can become educated on this subject without stirring out of this area.

Gas exhibit at 1935 National Hotel Show



One corner of Industrial Gas Exhibit at a previous National Metal Exposition

All of the exhibitors in the Gas Section are showing new equipment beautifully designed for eye appeal as well as for increased efficiency, lower fuel consumption, speed and simplicity in operation. Furthermore these are working exhibits giving actual demonstrations and experts in their lines will be on the ground to answer any and all questions. The list of exhibitors in this section is as follows:

American Gas Furnace Company
Burdett Manufacturing Company
Despatch Oven Company
Eclipse Fuel Engineering Company
Ensign Reynolds, Incorporated
Gas Machinery Company
Hones, Charles A., Inc.
Kemp Manufacturing Company, The C. M.
North American Manufacturing Company
Partlow Corporation
Selas Company
Spencer Turbine Company
Surface Combustion Corporation

Every member of the hotel industry will no doubt find this year's show the greatest source of money-making ideas and methods than has been presented in a decade. Especially does this apply to the gas exhibit which is one of the most important features of the show. This year's gas slogan reads "Modern Gas Equipment Produces Cheerful Checks." The steward will find more of interest to him in the gas exhibit than ever before. The lower cost

of cooking with gas is not the only feature by any means. The new models to be shown contrast with the old just as much as modern automobiles contrast with horses and buggies.

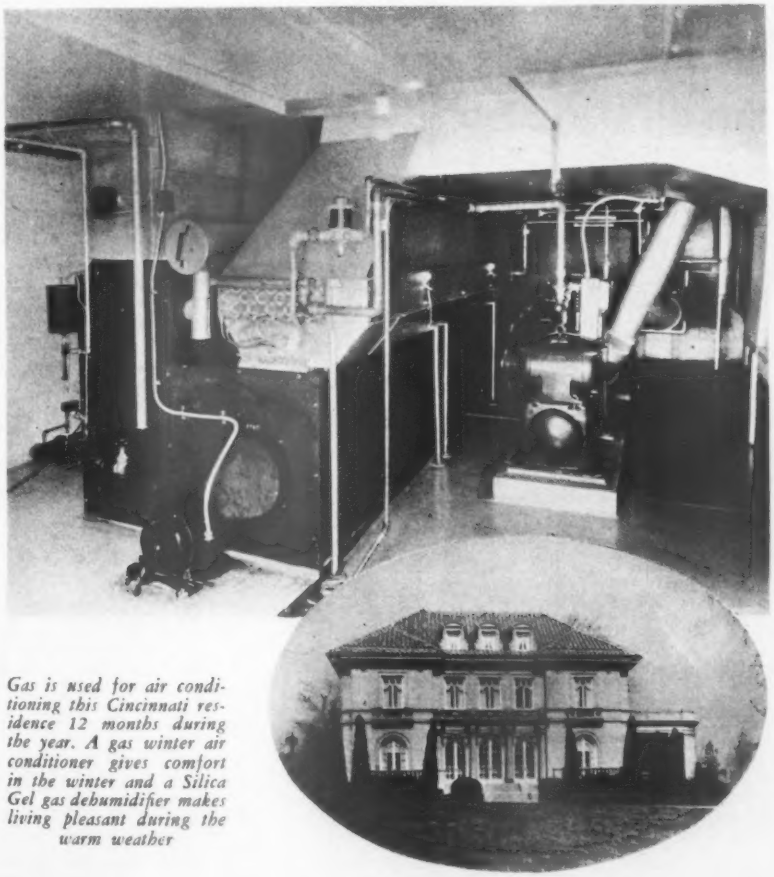
Five manufacturers have combined with the American Gas Association and Consolidated Edison Company of New York in one large space of magnificent proportions. The individual exhibits will be centered about a common square with spacious aisles running through it. As this is located near the main entrance to the show there will be a pretentious entrance to our exhibit flanked on both sides with white columns so that the casual visitor is naturally led into this area. In addition to the American Gas Association and Consolidated Edison Company of New York, the exhibitors include:

American Stove Company
Detroit-Michigan Stove Company
G. S. Blodgett Company, The
Majestic Manufacturing Company
Robertshaw Thermostat Company
Standard Gas Equipment Corporation

Attendance last year amounted to 40,000 but the total is expected to be considerably greater this year. The show will be at least 25% larger this year.

The National Restaurant Exposition is held in conjunction with the eighteenth annual convention of the National Restaurant Association. For 17 years these conventions and expositions have been drawing the attendance of a constantly increasing buying audience in that industry. The gas industry has done well to procure space in the show which will be held in the American Furniture Mart Building, Chicago, the world's second largest commercial structure. During the convention, and at all special gatherings, everyone must pass through the exposition to and from the meeting rooms. With an exceptionally fine location this assures the gas exhibit a maximum number of contacts with prospects. As already stated The Peoples Gas Light & Coke Company and a number of manufacturers are cooperating with the American Gas Association in this exhibit.

Gas Provides Home Comfort



Gas is used for air conditioning this Cincinnati residence 12 months during the year. A gas winter air conditioner gives comfort in the winter and a Silica Gel gas dehumidifier makes living pleasant during the warm weather

GOING AHEAD

WITH INDUSTRIAL GAS

The new gas hot tube enameling furnaces were featured this summer at the Ferro Enamel Forum which is conducted each year by Ferro Enamel Company in Cleveland. Demonstrations and lectures on these furnaces were given for the benefit of the enameling experts who were present from all over the country.

Syracuse University has now installed gas kilns in its Department of Ceramics, showing that modernization isn't confined to factories.

Interesting uses for gas . . . . permanently sealing the edges of safety glass.

"We dry a head with gas for about 1½ cents. We can depend on the service and our patrons are comfortable" says Mrs. Opal Eckhoff, owner of Miami's famed Opalescent Beauty Salon. Thanks, Mrs. Eckhoff, we know you are glad you changed to gas.

An unusual discussion of how vertical gas furnaces help manufacturers meet exacting factory layouts is presented by F. E. Harris, furnace engineer of Buick Motor Company in "Metal Progress" for August. Read it.

MAKES THEM TASTE BETTER TOO

Industrial gas puts the toast in Post Toasties.

THINGS ARE BRIGHTENING UP

A shot of Industrial Gas is used each time an electric bulb is made.

Consolidated Edison Company of New York is advertising gas process summer air conditioning in window displays at its several offices. These are backed up with extensive direct mail advertising with return postal cards and the subject has even made the radio programs. The number of successful installations is increasing.

Henry Heyn of Surface Combustion Corporation, who gets around in heat-treating circles, will address the American Metal Congress at Cleveland on "Atmospheres and Furnaces in the Wire Industry." You, of course, have noticed how this subject of controlled atmospheres has focused new attention on industrial gas furnaces.

Down in Atlanta, Ed. Kramer is organizing dealers' and manufacturers' agents for a gas engine drive. Nice work Ed., the hum of eight cylinders perking away is sweet music.

The trend is to Gas—the Modern Industrial Fuel.

Technical Section

F. A. Lydecker, Chairman H. W. Hartman, Secretary Martin I. Mix, Vice-Chairman

Thomas Calorimeters—Their Maintenance and Operation

By MARK F. KLEEBERG

The Peoples Gas Light and Coke Co., Chicago, Ill.

THE Thomas Calorimeter is designed to operate continuously within one per cent of the true heating value of the gas. In order to keep it operating at the degree of accuracy for which it was designed, a planned amount of attention is required. Theoretically, if every variable condition likely to affect its accuracy were included in a program involving frequent inspections, false measurements would occur rarely. The cost of such a program would be prohibitive and for regular operation would devaluate one of the important advantages of the calorimeter. Therefore, the choice of any selected degree of continuous accurate measurement within one per cent is a function of the frequency, and of course quality, of inspections. The position of this point on the "Continuous Accuracy—Inspection" curve varies for different companies and instruments within companies. Its value can be determined by analysis. For instance, in one company it was calculated that if all sendout calorimeters registered 0.5 per cent low and all purchased gas calorimeters 0.5 per cent high, the loss would be about $85,000 for one year.

It has been agreed generally that the maintenance and control of the instruments should be vested in the hands of an unbiased technical department whose sole interest is in their accurate and uninterrupted performance.

Installation of Instrument

The proper installation of the instrument should be carefully considered and the following points are offered as an aid:

1. Locate the tank unit as near as possible to the source of gas in order to have a minimum amount of time lag.

2. The location of the recorder and tank should be free from vibrations severe enough to affect their operation, and the tank should rest on a permanently solid base.

3. The room containing the tank unit should be adequately heated at as constant a temperature as possible, preferably between 70° F. and 75° F. using heat from a source outside the room. The use of fuel-burning heaters in the calorimeter room is to be avoided.

4. There should be no other combustion occurring in the room except that from the calorimeters, unless the ventilation facilities are adequate to furnish a sufficient amount of fresh air. The ventilation system should not allow excessive drafts to come into contact with the Thomas Calorimeter.

Thomas Calorimeter Serial No. A-129456-B
Slide Wire & Thermometers Serial No. 343

DAILY RECORD OF THOMAS CALORIMETER INSPECTIONS FOR MONTH OF November 1936, AT Central STATION

Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Day	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	
EACH VISIT																															
1. Check mechanical balance	✓		✓ 3:45		✓	✓		✓		✓		✓		✓			✓	✓			✓			✓		✓	✓		✓		
2. Check Recorder sensitivity & adjustment	✓		✓		✓	✓ 3:45		✓		✓		✓		✓			✓	✓			✓			✓		✓	✓		✓		
3. Check chart timing	✓		✓		✓	✓		✓ 3:45		✓		✓		✓			✓	✓			✓			✓		✓	✓		✓		
4. Days chart will last	20		18		16	15		13		11		9		7			4	3			31			28		26	25		23		
5. Check zero position of pen & chart alignment	✓		✓		✓	✓		✓		✓		✓ 3:45		✓			✓	✓			✓			✓		✓	✓	•	✓		
6. Electrical set at point	53		53		51	51		51		51		51		51			51	51			51			51		54	54		54		
7. Check for blowing seals	✓		✓		✓	✓		✓		✓		✓		✓			✓	✓			✓			O.K.		✓	✓		✓		
8. Check water level in main tank	✓		✓		✓	✓		✓		✓		✓		✓			✓	✓			✓			✓		✓	✓		✓		
9. Check water level in storage tank	O.K		✓		✓	O.K		✓		✓		O.K		✓			✓	O.K			✓			O.K		O.K	✓		✓		
10. Thomas Btu reading at 8:30 A.M.	103		107		102	103		109		105		104		106			107	103			104			105		105	104		106		
SEMI-WEEKLY																															
1. Flow calorimeter Btu			104			102				105				107				102			106			100		102			106		
2. Trite Btu on chart			O.K			O.K				O.K				O.K				O.K			O.K			O.K		O.K			O.K		
3. Oil calorimeter meter			O.K			O.K				O.K				O.K				O.K			O.K			O.K		O.K			O.K		
4.																															
WEEKLY																															
1. Check cold balance						O.K								O.K							O.K					O.K					
2. Clean tubes, orifices, & thermometers			O.K							O.K								O.K						O.K		✓					
3. Clean recorder meter commutators						O.K								O.K							O.K					O.K					
4. Clean or file governor contacts						O.K								O.K							O.K					O.K					
5. Clean and oil recorder parts						O.K								O.K							O.K					O.K					
6. Wipe and polish Thomas Calorimeter																															
7. Weeks ink will last	20		19							18							17							16							
8.																															
MONTHLY																															
1. Grease calorimeter gears & bearings																	O.K														
2. Clean combustion air meter ports																	✓														
3. Clean gas meter ports																	O.K														
4. Check trickle charger or batteries	~~~																														
5.																															
AS SPECIFIED																															
1. Flush Heated Gas Meter	O.K																														
2. Gas Rate Tube Test																										.000					
3. Hydrogen Test																										.008					
GENERAL																															
1. Parts seem to need attention	J.L					J.L											NC														
2. Replacements							J.L										FT			NC											

REMARKS:

Physical & Chemical Testing Department
A.G.A./MI Form No. A 5-19-33

KEY TO STANDARD SYMBOLS
O.K. = Left in proper condition after attention or adjustment
✓ = Checked, but no adjustment or attention necessary
S = Found too fast or too sensitive
- = Found too slow or not sensitive enough
R.A. = Pointer striking on right lever - Btu too low
L.A. = Pointer striking on left lever - Btu too high
..... = Taken care of by station personnel
~~~ = Does not apply at this station

OTHER SYMBOLS
J.L - Leaking Joints (A)
FT - Flutter Tube
NC - New Chart

SPECIAL CALLS - DATE
Pen clogged, no record from 3 A.M. - 9 A.M. 11-15-36

INSPECTOR J. Keenan

Form A
~~~

Record of Thomas Calorimeter Inspection and Maintenance
Items Demanding attention at Intervals Greater than One Month
for the Year 19[illegible] at Electrical Station

Thomas Calorimeter Serial No. A-123456-B
Slide Wire and Thermometers Serial No. 543

Month	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Inspection & Maintenance Items												
A. Four to Six Times a Year 1. Flush Heated Air Meter	O.K.			O.K.				O.K.			O.K.	
B. Two Times a Year 1. Change Grease in Worm Gear Housing		O.K.							O.K.			
2. Air-Gas Ratio Test				+.02							-.002	
3. Clean & Replenish Tank with Fresh Water				O.K.							O.K.	
D. Once a Year 1. Revarnish Inlet Thermometer							O.K.					
2. Hydrogen Test											+.01	
3. Clean and Grease Recorder Motor							O.K.					
4. Clean and Grease Tank Motor							O.K.					
5. General Overhaul and Paint if Necessary												

Remarks:

Physical & Chemical Testing Dept.
SJM:JWH. Form No.B. 3-19-35.

INSPECTOR G. Kelsen

Form B

5. There should be as few gas pipe connections as possible in the room, and care should be taken that combustible gases or vapors do not have access from the outside.

6. The tank unit should be placed with its back at least one foot from the wall and two feet from any obstruction on the other three sides. It should be located on the side of the room farthest from the source of heat and fresh air supply. The recorder unit should be placed at least two feet from the wall or any obstruction in any direction.

7. The room should be well lighted, but direct sunlight should not touch the tank.

8. If a flow calorimeter is used to check the Thomas Calorimeter, a small test holder should be installed.

Any installation wherein the above conditions are adopted will be assured of the least trouble from sources outside the instruments.

Inspection of Instrument

Having analyzed the importance of maintaining a certain degree of accuracy and, by trial or questionnaire, decided upon the amount of control required, it is then necessary to develop a program of inspection. The simplest manner of doing this is by the use of inspection forms.

Form A, entitled "Daily Record of Thomas Calorimeter Inspections for the Month of....., 19...., at..... Station," is offered as a result of the study of inspection forms used by several companies. Its advantages are high visibility, ease of daily or other periodic comparison, and elasticity of application.

Form B, entitled "Record of Thomas Calorimeter Inspections Demanding Attention at Intervals Greater than One Month, for the Year 19...., at..... Station," is used to supplement Form A according to its title.

Form C, entitled "Air-Gas Ratio and Hydrogen Test," is used to record the results of these two very important tests.

Although the frequency of the inspection items is designated in Forms A and B, their application can be made optional within reasonable limits, according to the degree of accuracy selected.

Throughout this paper, it has been attempted to use the same nomenclature, and unless otherwise specified, the same procedure established by the manufacturer in the following booklets:

"The C-H Thomas Calorimeter," Booklet TM—6.

"Directions for Operating L & N Recorder To Be Used in Connection with Thomas Calorimeter," Direction Book Std. 20941.

Only certain items of inspection are listed in Forms A and B. These items were chosen because the experience of several companies has shown that they are most likely to need regular attention. It is assumed that the inspectors in charge of calorimeters are reasonably familiar with all of its troubles and the remedies for them. Therefore, items concerning irregular or infrequent causes of trouble are omitted, but directions for their application can be found either in the above pamphlets or from the manufacturer.

FORM A

ITEMS TO INSPECT AT EACH VISIT

1. *Check Mechanical Balance.* This refers to the position of the galvanometer pointer. There is a loss of proper adjustment due to vibration, shock, temperature changes, or other causes.

2. *Check Recorder Sensitivity and Adjustment.* This refers to all recorder action between the pointer and the pen. Dirt and wear are the most frequent causes of change in sensitivity. The degree of sensitivity may be defined as the amount of pen change per unit of time for any change in the position of the galvanometer pointer. An instrument may be over-sensitive as well as under-sensitive.

3. *Check Chart Timing.*

4. Record the number of *Days Chart Will Last.*

5. *Check Zero Position of Pen and Chart Alignment.*

6. Record the *Rheostat Setting.*

7. *Check for Blowing Seals.*

8. *Check Water Level in Main Tank.*

9. *Check Water Level in Storage Tank.*

10. *Record the Thomas B.t.u. Reading.* This can be used in different ways:

a. A notation of the average of the previous day's record.

b. A notation of the calorimeter reading at some particular hour.
   1. Hour of maximum sendout.
   2. Hour at which inspector arrives.
   3. Same hour for all calorimeters on system.

c. A notation of the reading at the time of making a flow calorimeter test.

Under normal circumstances, the checking of the above items should not take longer than one-half hour of the inspector's time. If trouble concerning items 1, 2, 3, 5, 6, 7, or 8 is found, it should be recorded also on the heating value chart with an estimate of the extent and duration of the trouble.

ITEMS TO INSPECT SEMI-WEEKLY

1. Record the *Flow Calorimeter Check Tests.*

2. *Write B.t.u. on Chart.* This refers to flow calorimeter B.t.u.

3. *Oil Calorimeter Motor.*

The time involved in performing the above work should consume about one hour under normal circumstances.

ITEMS TO INSPECT WEEKLY

1. *Check Cold Balance.*

2. *Clean Tubes, Orifices, and Thermometers.* The accumulation of dirt and deposits necessitates that certain parts of the tank unit be given a thorough cleaning. Shut off the tank motor and remove the following parts in sequence:

a. Outlet thermometer.
b. Burner jacket.
c. Fluted tube.
d. Combustion tube.
e. Gas tube.
f. Orifice caps.
g. Inlet thermometer.

Blow out the heat absorbing air outlet connection.

Blow out the passages of the secondary air and gas mixture pipes. Use a swab for drying out the connection faces in the lower burner base.

See that the drain pipe in the lower burner base is clear.

Clean the orifices.

Inspect the gas tube for leaks, and before replacing, wipe it clean and apply a small amount of grease to the threads.

Inspect the combustion tube, and before replacing, wipe it clean and apply a small

amount of grease to the threads and to the outside for a distance of about two inches above the threads.

Inspect the fluted tube. Serious corrosion is indicated by greenish-white deposits on the outside of the tube at the base of the upper set of fins. Before replacing, swab the inside with a test tube brush.

Clean the air ports in the inlet thermometer and inspect for leaks and corrosion before replacing.

Light the burner flame and observe the condition of combustion and concentricity of the tubes.

Inspect and clean the burner cap before replacing.

Before replacing the burner jacket, blow out the accumulated dirt.

Inspect and clean the outlet thermometer before replacing.

3. *Clean Recorder Motor Commutators.*
4. *Clean or File Governor Contacts.*
5. *Clean and Oil Recorder Parts.*
6. *Wipe and Polish Thomas Calorimeter.*
7. *Record the Weeks Ink Will Last.*

The time involved to accomplish the above work will be about three hours under normal circumstances.

ITEMS TO INSPECT MONTHLY

1. *Grease Calorimeter Gears and Bearings.*
2. *Clean Combustion Air Meter Ports.* This is accomplished by blowing.
3. *Clean Gas Meter Ports.* This is accomplished by blowing.
4. *Check Trickle Charger or Batteries.*

The time involved to accomplish the above work will be about one hour under normal circumstances.

ITEMS TO INSPECT AS SPECIFIED

These items appear in Form B and are to be inserted in the blank spaces at the proper date. Form B is itemized as follows:

FORM B

ITEMS TO INSPECT FOUR TO SIX TIMES PER YEAR

1. *Flush Heat Absorbing Air Meter.* Time involved is about one-half hour.

ITEMS TO INSPECT TWO TIMES PER YEAR

1. *Change Grease in Worm Gear Housing.*
2. *Air Gas Ratio Test.*
3. *Clean and Replenish Tank with Fresh Water.*

The time involved to accomplish the above work will be about eight hours under normal circumstances.

ITEMS TO INSPECT ONCE A YEAR

1. *Revarnish Inlet Thermometer.*
2. *Hydrogen Test.* If necessary, this test can be made more frequently.
3. *Clean and Grease Recorder Motor.*
4. *Clean and Grease Tank Motor.*
5. *General Overhaul and Paint, if Necessary.*

The time involved for the above work varies from three days to one week under normal circumstances.

GENERAL (Continuation of Form A)

1. Record the *Parts Soon to Need Attention.*
2. Record the *Replacements.*

Filing, Study and Supervision of Inspection Forms

Form A is a distinctive memory aid to the inspector in giving the instrument the proper amount of attention at the correct time. It should be carried with him and filled in as he completes each item. At the end of the month it should be returned to the supervisor who will provide a new one having the necessary items written in the "AS SPECIFIED" blank spaces.

The heating value charts may be removed from the recorder either daily, weekly, or monthly, dependent upon how they are to be used. Most large companies remove them in twenty-four hour sections. In this case it is best to cut a slot for the chart to pass through in the front of the recorder, so that no one besides the inspector need have access to the inside. The chart sections should have the following information taken from them:

1. Calorimeters on Street Gas.
   a. Average daily B.t.u.
   b. Maximum and minimum B.t.u.
   c. Average B.t.u. for meal cooking periods.
2. Calorimeters on Purchased and Large Volume Sale Gas.
   a. Average hourly B.t.u. for weighting with gas volume.
   b. Average daily B.t.u.

In all cases the record taken from the chart should be corrected for any inaccuracies noted on it by the inspector.

AIR-GAS RATIO AND HYDROGEN TEST

Station Central Date Nov. 26, 1934.

Calorimeter Serial No. A-123456-B

Thermometer & Slidewire Serial No. 543

Last Setting Air-Gas -0.07 Hydrogen +0.02

Temperature of Tank Water 71°F

Room Temperature 70°F

Tested for Leaks Yes ~~No~~

Mechanical and Cold Balances Adjusted before Test Yes ~~No~~

Gears Used 27A-33B for hydrogen test.
20A-40B for air-gas ratio test.

A. AIR GAS RATIO TEST (FINAL SETTING)

Position of Drum	Position of Prover Bell					Difference between Rev. 1 and Rev. 4 Divided by 3 = Per Cent High or Low
	Start	Rev. 1	Rev. 2	Rev. 3	Rev. 4	
1		-.2	—	—	-.23	-.010
3		-.3	—	—	-.4	-.033
5		-.1	—	—	±.0	+.025
7		-.2	—	—	-.05	+.050
9		+.1	—	—	±.0	-.033
11		+.1	—	—	-.05	+.017
13		±.0	—	—	±.0	±.000
15	-.2	±.0	—	—	-.1	-.033
17	-.1	-.25	—	—	-.25	±.000
						Average = -0.002

B. HYDROGEN TEST

Gears Used

Theoretical Value of Hydrogen Used = 716.9
Value of Hydrogen Registered on Calorimeter = 717.5
Difference = 0.6

$\frac{(0.6)\ \text{Difference}}{(716.9)\ \text{Theoretical Value}}$ = .08 Per Cent $\frac{\text{High}}{\text{Low}}$

REMARKS:

Physical & Chemical Testing Dept.
SJM:JWH. Form No. C - 3-19-35.

INSPECTOR G. Keenan

Form C

The supervisor should then study the heating value charts in conjunction with the inspection forms to see how well the instruments are performing, and what items have been giving trouble. By so doing, he can form suggestions for improving the maintenance and operation of the calorimeters.

All the forms and heating value records should be kept by him in a suitable file for further inspection and study until such a time when their usefulness has been definitely expended. Periodic reports dealing with cost of servicing, accuracy of measurements, savings due to improvements, suggestions for research, suggestions to the Operating Department, ordering of replacements, etc., can very easily be made by the supervisor when such complete information is available.

In conclusion, the following points are offered as subjects for improving the maintenance and operation of Thomas Calorimeters:

1. A better understanding of the underlying principles.
2. Decreased time lag within the instrument.
3. Higher operating accuracies.
4. Increased life of parts.

RANGE CONTEST WINNERS

(Continued from page 365)

Robertshaw Thermostat Company.
Therminsul Corporation of America.
Wilcolator Company.

Gas Cock Manufacturers

Detroit Brass & Malleable Works.
Harper-Wyman Manufacturing Company.
Lincoln Brass Works.
Milwaukee Gas Specialty Company.
Roberts Brass Manufacturing Company.
W. J. Schoenberger Company.

The committee in charge of the contest was headed by R. J. Rutherford, Worcester Gas Light Company, Worcester, Massachusetts.

In addition to receiving large cash awards, the prize winning companies will receive a special award certificate, suitable for framing and mounting in the companies' offices. The six gas companies winning first prize for the best sales records during the entire six months' period will receive their award certificates at a Special Prize Session of the Commercial Section to be held in Atlantic City on the afternoon of Wednesday, October 28.

FIRE PREVENTION

(Continued from page 350)

tions to the attention of the home owner. This may also lead to having old equipment replaced by modern gas equipment and emphasizing the safety equipment incorporated with A. G. A. laboratory-tested appliances.

It is also advantageous in this campaign to remind the public that the local gas company is interested in the safe use of their commodity and has servicemen available at their call to see that all gas equipment is safely and efficiently operated. The public should be discouraged against making their own connections of gas appliances by the so-called master mechanic of the household, and seek the advice of the local gas company on all matters pertaining to piping, equipment and installation. They are in the best position to know through their contact with regulatory bodies what the safe practice requirements are, and recommend the proper equipment and persons qualified to make the installation.

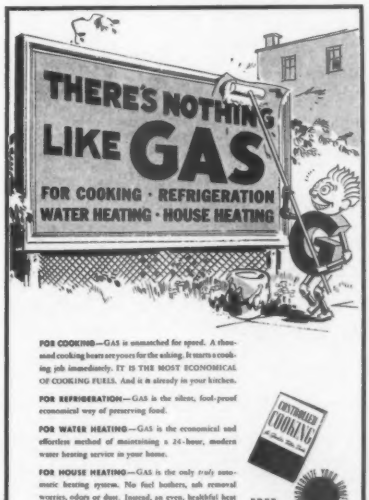
The Home Economics Departments of the various gas companies can also assist in this "Fire Prevention" campaign during their demonstration periods and emphasize the safety of the A. G. A.-approved gas equipment available to the public. They can also bring to the attention of the housewife the fire hazards which may prevail in the home, especially the hazardous practice of using inflammable liquids such as gasoline as cleaners.

Most of the gas companies have safety departments with group leaders throughout the organization. During "Fire Prevention" week this group in their meetings can give special emphasis on fire hazards and how to eliminate them.

The participation of our Association and member companies in Fire Prevention Week—October 4-10, will be a worthy movement as well as a gainful one. The outline and suggestions given here on this campaign to reduce "Fire Waste" are only elementary, and many ingenious and productive plans can be formulated.

Each year at the National Fire Protection Association Convention a very complete report on "Fire Prevention and Clean-up Campaign" is made by the chairman of the committee. In this report, direct mention is made of all organizations and their activity in this campaign, and how it was conducted. To give our Association due credit for their efforts, a complete report of each member company should be mailed to the American Gas Association which, in turn, will report for our industry to the International Committee for Fire Prevention Week.

Advertising Tie-in


THERE'S NOTHING LIKE GAS
FOR COOKING · REFRIGERATION
WATER HEATING · HOUSE HEATING
FOR COOKING—GAS is unmatched for speed. A thousand cooking hours are yours for the asking. It turns a cooking job immediately. IT IS THE MOST ECONOMICAL OF COOKING FUELS. And it is already in your kitchen.
FOR REFRIGERATION—GAS is the silent, food-preserving economical way of preserving food.
FOR WATER HEATING—GAS is the economical and effortless method of maintaining a 24-hour, modern water heating service in your home.
FOR HOUSE HEATING—GAS is the only truly automatic heating system. No fuel bothers, ash removal worries, odors or dust. Instead, an even, healthful heat regardless of outside temperatures. And for ALL that it gives, GAS is the most economical.
See the gas appliances at our salesroom. Many can be purchased for as low as $5 DOWN with from 36 to 60 months to complete payments.
CONTINUOUS COOKING
FREE RECIPE BOOK
Rochester Gas & Electric Corp.
89 East Avenue
Main 3960

An example of effective local tie-in with the national advertising program used by the Rochester Gas and Electric Corporation

---

Gas Men Are Studious

THERE are at the present time 111 enrolled in the course in American Gas Practice offered by Columbia University under the auspices of the American Gas Association, according to a report from Professor Jerome J. Morgan who is in charge of the course. During the three months from June to September some 160 lessons were received from 61 members of the class. The other 50 members apparently took a vacation from their studies during the summer months. It is anticipated that with cool weather they will start in again along with a number of new students who will take advantage of the long winter evenings to improve their knowledge of the gas industry. Since the beginning of the course, 1,770 have enrolled.

The course in American Gas Practice is available in either or both of two parts, the first covering production of manufactured gas and the second distribution and utilization of all kinds of city gas. The arrangement makes it possible for plant or distribution employees to study only those subjects in which they are interested. Circular giving complete information on the course can be secured by writing Association Headquarters.

Personnel Service

SERVICES OFFERED

General **Superintendent** or Local **Manager.** Fifteen years' experience in the production of water gas, coal gas, and Pacific Coast oil gas, high and low pressure distribution and transmission, domestic and industrial installation and utilization. Mechanical engineering education; speaks English and Spanish, employed at present. (37). **1040.**

Service Manager, 13 years' natural gas experience, transmission, distribution as construction and maintenance foreman. Domestic, commercial and industrial selling, aiding salesmen to close, advising in heating problems, laying out new systems, renovating and modernizing old systems; specialist in heating, employed. (31). **1041.**

Meter Shop Superintendent, 9 years' experience in gas meter repairs in charge of meter shops repairing 60,000 meters per year. Thoroughly familiar with modern meter work and manufacture of meter diaphragms. University graduate. Good personality; can effect economies. **1043.**

Manager 24 years' experience in all branches of manufactured coal and water gas. Built and operated plants for sixteen years; with last organization seventeen years every capacity, last eight years as manager property 5,800 meters, showing exceptional results. Have endorsement of city officials and leading business men with fine public relations; married. (44). **1045.**

Sales Engineer, capable of managing house-heating department in all its branches, covering surveys, installation, estimates, sales promotion, service, repairs and maintenance. Experience also covers industrial field with regard to high and low pressure boilers and large volume water heating. Broad general and technical experience; married. **1047.**

Sales Engineer or supervisor (38) with ten years' experience in the gas industry covering everything in the industrial, domestic, housheating, commercial, hotel restaurant and refrigeration lines, desires identification with public utility or manufacturer. **1050.**

Engineer experienced (16 years) in the construction of water and coal gas plants and apparatus, including several years supervising installation and repair wet and dry holders, with largest gas plant company in U. S., last four years on valuation work. **1051.**

Twelve years' gas utility experience as superintendent of distribution, service and **sales.** Have produced results at low unit cost. Employed last three years in personnel work; not afraid of hard work or responsibility. Married, good health; (36). **1052.**

Position desired with manufacturer of gas utilization equipment or sales department of gas company by one for many years employed as **salesman,** branch manager and chief executive by large manufacturing company distributing to the heating and plumbing trade. Fully experienced in developing and handling all phases. **1053.**

Man who is willing to begin as a subordinate with gas utility wants position; experience covers manufactured gas, natural gas, and distribution, also public relations. Have worked from the ditch to **superintendent,** have laid out and built gas plant. **1055.**

Topographical draftsman—Experienced in the detail platting and recording of oil and gas field operations, and presenting all such data in graphic form. Also a substantial background in statistical, preparatory surveys, layout and printing proposals. **1056.**

Engineer with 29 years' service with utility company. Familiar with all branches of gas construction specializing in report, estimates, construction and appraisals, also studies relating to assessments and revision of taxes; also electric experience. **1057.**

Accountant-auditor; five years' public accounting experience auditing public utilities and miscellaneous group of trading and manufacturing corporations. Passed two subjects N. Y., C. P. A. One year investment research experience. Knowledge interpretation and sources financial and economic statistics and information. Single. College graduate. Go anywhere in U. S. (35). **1058.**

SERVICES OFFERED

Advertising—publicity. Six years' newspaper reporter. Four years' advertising and editorial work among both manufactured and natural gas companies, in different sections provide broad knowledge of appliance selling and public relations on rates, franchises, etc. Copywriter, rough layouts and able to handle production detail; graduate. **1059.**

House heating and industrial **sales engineer**—wide experience in gas production and sales—technical graduate—result-getter; can make heating layouts, also air conditioning—strict adherence to sound selling policies—prefer middle west location; available on short notice; married (38). **1060.**

Sales promotion—advertising—publicity. Do you believe sound ideas sell goods; that dramatic layouts compel attention; that convincing copy gets inquiries? Then I have what you want. Let me show you a campaign that doubled factory's production. Four years with leading utility. Know advertising production, printing, engraving, etc. **1061.**

Advertising man with usually successful record in **advertising** and **sales** promotion, backed by actual sales experience. Capable of taking entire charge of advertising operation, or can render invaluable service as assistant to busy commercial manager. **1062.**

Recently graduated gas engineer desires to become connected with a gas company in a **technical** position. Willing to work and cooperate with my fellow workers. **1063.**

Director of Research—nineteen years' experience; eight in high and low temperature coal-tar, oil cracking and refining; eleven in space and **house heating.** Outstanding research in heating, conversion and gas designed; also in air conditioning. Desire connection with manufacturer who would like to step out ahead of the rest. **1064.**

Position desired with gas company as **house heating salesman.** Twelve years with large eastern gas company. Selling, surveying and supervision. A-1 record. **1065.**

Heating, cooking appliance **salesman** desires connection with manufacturer. Twenty years' experience selling wholesale and retail trade, and utility companies, in eastern and southern territories. Have ability to organize, create a volume of business and handle any territory to mutual advantage. Have no preference as to territory. **1066.**

Technical graduate desires new connection; six years' experience in plant construction, operation, distribution and appliance servicing; five years' experience in industrial, commercial and heating **sales** with natural and manufactured gas; completed Columbia University extension course in "Manufactured Gas"; married; (33). **1067.**

Young man, good appearance, education and refinement, with full share of health, energy and judgment based on 2½ years' practical pioneering **air-conditioning** experience promoting manufacturer's equipment; (33). **1068.**

Gas **technologist engineer** with 12 years' experience in natural and manufactured gas industry as manufacturing and distribution engineer operator and designer of equipment, surveyor and expert in map work. **1069.**

Sales Promotion. Past five years with nationally known manufacturer as field representative in sales promotion department. Utility, dealer and consumer group meetings effectively conducted. Educational work and personal sales calls with salesmen; preparation of sales promotion literature. Acquainted with utilities in New England, New York, New Jersey, Pennsylvania. **1070.**

Inventory-appraisal **engineer** with 20 years' operating, sales and construction experience, offers services in any capacity in the gas business. Experience covers both natural and manufactured gas; go anywhere (39). **1071.**

Mechanical engineer, university graduate; 8 years' experience in manufactured gas; transmission, distribution, construction, operation, maintenance, design, planning, testing, reports, studies, budgets, rates and management. Held positions as chief draftsman, cadet engineer, service manager and assistant engineer. Interested in research and air conditioning. Desires position as engineer or manager. Married. (29). **1072.**

SERVICES OFFERED

Graduate **engineer,** sales and technical experience. At present with large gas utility company selling house heating equipment and other gas appliances. Broad engineering experience with electric and steam power companies. Also purchasing experience for large industrial organizations. **1074.**

Gas engineer nineteen years' designing, manufacturing, erecting and operating producers, blue and carburetted water gas plants. Experienced with all kinds fuels; five years in Russia. Not particular, anything from foreman to chief engineer large plant or group small gas properties. Best references. **1075.**

Salesman in Metropolitan area New York and nearby States seeks position to represent manufacturer in gas appliances, gas fired boilers, gas ranges, water heaters all types and refrigerators. Has an established trade for last fifteen years among gas companies, wholesalers, distributors and plumbers and dealers, architects, builders. **1076.**

Thoroughly experienced **sales engineer** in industrial gas and gas house heating, services available at once, twelve years' experience in gas utility new business operations. **1077.**

Utilization and **sales engineer.** Long experience in househeating, industrial applications and restaurant equipment. Can make complete investigation and survey and select proper equipment; can direct correct installation. Thorough in inspection and maintenance of appliances. Can manage a department for a utility. Will represent a manufacturer in the New York Metropolitan area. **1078.**

Salesman, good education and training wants connection in sales department. Can make house heating surveys and sales. Eleven years in the gas industry. In good health and will go anywhere (35). **1079.**

POSITIONS OPEN

Gas or **combustion engineer** in designing and manufacturing gas heaters, conversion burners, circulators, or furnaces. Permanent position with opportunity for right party. State full experience, salary wanted. **0312.**

College graduate around thirty years of age with perhaps five years' experience in connection with work of men **servicing customers' appliances** and setting and removing meters. Must be a live wire with good executive ability to supervise work of thirty men doing such work in Middle West city having 80,000 meters. Salary $200 per month. **0315.**

Salesmen to canvass with gas appliance experience for territories in New Jersey, Maryland, Pennsylvania, Delaware and Florida, leading to district managerships. Company merchandises bottled gas and related appliances. Remuneration on a liberal commission basis until ability is established. State qualifications fully. **0316.**

FACE TO FACE

A large number of Association activities will be on parade during the Annual Convention at Atlantic City this month; but not all.

PERSONNEL SERVICE, in bringing employers and prospective employees together, must generally do so by mail, but once a year there is an opportunity to meet, at minimum trouble and expense, during the Convention.

Arrangements have therefore been made for inspection of the confidential classification record and other supporting data, descriptive of each "Services Offered" advertiser in this issue of the Monthly, during the convention. PERSONNEL SERVICE will also be glad to establish contact and assist in arranging interviews; apply A. G. A. Headquarters in the Municipal Auditorium, Atlantic City, October 26-30.

Every phase of PERSONNEL SERVICE work is confidential and negotiations are undertaken with discretion. Numerous appreciative letters indicate that many members have found the service entirely satisfactory; it is rendered without charge to both employer and employee.

PERSONNEL SERVICE is always at YOUR service.

Advisory Council

H. C. ABELL.....New Orleans, La.
JAY BARNES.....New Orleans, La.
HOWARD BRUCE.....Baltimore, Md.
FRANK L. CHASE.....Dallas, Texas
A. S. CORSON.....Philadelphia, Pa.
J. D. CREVELING.....New York, N. Y.
F. C. FREEMAN.....Providence, R. I.
R. W. GALLAGHER.....New York, N. Y.
O. S. HAGERMAN.....Chicago, Ill.
C. A. HARRISON.....Toledo, Ohio
W. H. HODGE.....Chicago, Ill.
SAMUEL INSULL, JR.....Chicago, Ill.
F. B. JONES.....Pittsburgh, Pa.
D. F. KAHN.....Hamilton, Ohio
F. A. LEMKE.....Kalamazoo, Mich.
F. A. MILLER.....Bradford, Pa.
W. F. MILLER.....Chicago, Ill.
E. B. NUTT.....New York, N. Y.
CLIFFORD E. PAIGE.....Brooklyn, N. Y.
I. K. PECK.....Binghamton, N. Y.
A. E. PEIRCE.....Warrenton, Va.
J. A. PERRY.....Swarthmore, Pa.
J. F. QUINN.....Brooklyn, N. Y.
GEO. W. RATCLIFFE.....Pittsburgh, Pa.
J. M. ROBERTS.....Chicago, Ill.
F. M. ROSENKRANS.....Kansas City, Mo.
N. T. SELLMAN.....New York, N. Y.
ARTHUR STOCKSTROM.....St. Louis, Mo.
D. B. STOKES.....Burlington, N. J.
T. J. STRICKLER.....Kansas City, Mo.
J. B. TONKIN.....Pittsburgh, Pa.
F. S. WADE.....Los Angeles, Calif.
T. R. WEYMOUTH.....Pittsburgh, Pa.
E. L. WILDER.....New York, N. Y.

AFFILIATED ASSOCIATIONS

Association of Gas Appliance and Equipment Manufacturers
Pres.—William T. Rasch, American Gas Products Corp., New York, N. Y.
Exec. Sec.—C. W. Berghorn, 60 East 42nd St., New York, N. Y.

Canadian Gas Association
Pres.—W. H. Munro, Ottawa Gas Co., Ottawa, Ont., Canada.
Sec.-Tr.—G. W. Allen, 183 Glengarry Avenue, Toronto.

Empire State Gas and Electric Association
Pres.—E. R. Acker, Central Hudson Gas & Electric Co., Poughkeepsie, N. Y.
Chairman, Gas Section—R. R. Bogie, Kings County Lighting Co., Brooklyn, N. Y.
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.

Illinois Public Utilities Association
Pres.—A. D. Mackie, Central Illinois Light Co., Springfield, Ill.
Sec.—Jack Abbey, 607 Leland Office Bldg., Springfield, Ill.

Indiana Gas Association
Pres.—L. C. Heavner, Northern Indiana Public Service Co., Fort Wayne, Ind.
Sec.-Tr.—P. A. McLeod, New Castle, Ind.

Michigan Gas Association
Pres.—Newell E. Loomis, Detroit City Gas Co., Detroit, Mich.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.

Maryland Utilities Association
Pres.—F. A. Alexander, Conowingo Power Co., Elkton, Md.
Sec.—E. J. Hand, Conowingo Power Co., Elkton, Md.

Mid-West Gas Association
Pres.—H. M. Smith, Iowa Public Service Co., Waterloo, Ia.
Sec.-Tr.—Roy B. Searing, Sioux City Gas & Electric Co., Sioux City, Iowa.

Missouri Association of Public Utilities
Pres.—C. E. Michel, Union Electric Light & Power Co., St. Louis, Mo.
Sec.-Tr.—N. R. Beagle, Missouri Power & Light Co., Jefferson City, Mo.
Asst. Sec.—Jesse Blythe, 103 West High St., Jefferson City, Mo.

New England Gas Association
Pres.—F. L. Ball, New England Power Association, Boston, Mass.
Exec. Sec.—Clark Belden, 41 Mt. Vernon St., Boston, Mass.

New Jersey Gas Association
Pres.—William S. Potter, Elizabethtown Consolidated Gas Co., Elizabeth, N. J.
Sec.-Tr.—G. B. Webber, Public Service Electric and Gas Co., Newark, N. J.

Ohio Gas and Oil Men's Association
Pres.—Harry F. Moran, Ohio Oil Co., Findlay, Ohio.
Sec.-Tr.—Frank B. Maullar, 811 First National Bank Bldg., Columbus, Ohio.

Oklahoma Utilities Association
Pres.—C. A. Breitung, Southwest Gas Utilities Corp., Ada, Okla.
Acting Sec.—Kate A. Niblack, 625 Biltmore Hotel, Oklahoma City, Okla.

Pacific Coast Gas Association
Pres.—James F. Pollard, Seattle Gas Co., Seattle, Wash.
Mang. Dir.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.

Pennsylvania Gas Association
Pres.—H. N. Squier, Scranton-Spring Brook Water Service Co., Scranton, Pa.
Sec.—Frank W. Lesley, Pennsylvania Gas & Electric Co., York, Pa.

Pennsylvania Natural Gas Men's Association
Pres.—H. D. Freeland, Waynesburg, Pa.
Sec.-Tr.—B. H. Smyers, Jr., 435 Sixth Ave., Pittsburgh, Pa.

Southern Gas Association
Pres.—H. E. Meade, New Orleans Public Service Inc., New Orleans, La.
Sec.-Tr.—S. L. Drumm, New Orleans Public Service Inc., New Orleans, La.

The Public Utilities Association of Virginia
Pres.—T. Justin Moore, Va. Elec. & Power Co., Richmond, Va.

Wisconsin Utilities Association
Pres.—Frank A. Coffin, The Milwaukee Electric Railway & Light Co., Milwaukee, Wis.
Exec. Sec.—A. F. Herwig, 135 West Wells St., Milwaukee, Wis.

AMERICAN GAS ASSOCIATION, Inc.

HEADQUARTERS, 420 LEXINGTON AVENUE, NEW YORK, N. Y.

OFFICERS AND DIRECTORS

President	L. B. DENNING	Dallas, Texas
Vice-President	HERMAN RUSSELL	Rochester, N. Y.
Vice-President	N. C. McGOWEN	Shreveport, La.
Treasurer	J. F. ROONEY	New York, N. Y.
Managing Director	ALEXANDER FORWARD	New York, N. Y.
Assistant Manager	H. W. HARTMAN	New York, N. Y.
Secretary	KURWIN R. BOYES	New York, N. Y.
Director, Publicity-Advg.	C. W. PERSON	New York, N. Y.
Departmental Vice-Pres.	WM. MOELLER, JR.	Los Angeles, Calif.
Sectional Vice-Pres.	F. L. GRIFFITH	Chicago, Ill.
Sectional Vice-Pres.	C. E. BENNETT	Pittsburgh, Pa.
Sectional Vice-Pres.	CHARLES W. GALE	Knoxville, Tenn.
Sectional Vice-Pres.	JOHN A. FRY	Detroit, Mich.
Sectional Vice-Pres.	F. A. LYDECKER	Newark, N. J.
Chairman, Pub. & Advg. Com.	HENRY OBERMEYER	New York, N. Y.

WALTER C. BECKJORD	Pittsburgh, Pa.	GEORGE S. HAWLEY	Bridgeport, Conn.
CHARLES M. COHN	Baltimore, Md.	C. W. HUNTER	Philadelphia, Pa.
H. C. COOPER	Pittsburgh, Pa.	CONRAD N. LAUER	Philadelphia, Pa.
ADDISON B. DAY	Los Angeles, Calif.	B. J. MULLANEY	Chicago, Ill.
J. S. DEHART, JR.	Newark, N. J.	F. A. NEWTON	New York, N. Y.
B. J. DENMAN	Chicago, Ill.	W. T. RASCH	New York, N. Y.
H. L. DOHERTY	New York, N. Y.	THOS. E. ROACH	Tacoma, Wash.
O. H. FOGG	New York, N. Y.	W. FRANK ROBERTS	Baltimore, Md.
*ARTHUR HEWITT	Toronto, Canada	T. J. STRICKLER	Kansas City, Mo.
P. S. YOUNG	Newark, N. J.		

SECTION AND DEPARTMENT OFFICERS

NATURAL GAS—Chairman	WM. MOELLER, JR.	Los Angeles, Calif.
Vice-Chairman	GEORGE E. WELKER	Oil City, Pa.
Secretary	A. E. HIGGINS	Dallas, Texas
ACCOUNTING—Chairman	F. L. GRIFFITH	Chicago, Ill.
Vice-Chairman	E. J. TUCKER	Toronto, Ont., Can.
Secretary	H. W. HARTMAN	New York, N. Y.
COMMERCIAL—Chairman	C. E. BENNETT	Pittsburgh, Pa.
Vice-Chairman	F. M. BANKS	Los Angeles, Calif.
Secretary	J. W. WEST, JR.	New York, N. Y.
INDUSTRIAL GAS—Chairman	CHARLES W. GALE	Knoxville, Tenn.
Vice-Chairman	RALPH L. MANIER	Syracuse, N. Y.
Secretary	EUGENE D. MILENER	New York, N. Y.
MANUFACTURERS—Chairman	JOHN A. FRY	Detroit, Mich.
Vice-Chairman	MERRILL N. DAVIS	Bradford, Pa.
Vice-Chairman	J. SCOTT FOWLER	Philadelphia, Pa.
TECHNICAL—Chairman	F. A. LYDECKER	Newark, N. J.
Vice-Chairman	M. I. MIX	Chicago, Ill.
Secretary	H. W. HARTMAN	New York, N. Y.
PUBLICITY & ADVERTISING COMMITTEE—Chairman	HENRY OBERMEYER	New York. N. Y.

* Deceased

PRINTED IN THE U. S. A.